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ANOTHER MODIFICATION OF THE PRECIPITIN TEST FOR SYPHILIS.*

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NEW ORLEANS.

Even a casual review of the voluminous literature that has accumulated of late years upon the subject of precipitin tests for syphilis would seem to preclude the possibility of favorably modifying or improving upon the technic of this phenomenon. In the actual routine performance of any one of the more commonly accepted varieties, however, even the trained medical laboratory specialist finds many pitfalls that without the most scrupulous care would consign many a patient to a rather fateful diagnosis.

Dr. R. L. Kahn[1] has probably contributed more to our knowledge of the fundamental reactions underlying the precipitin test as applied to the diagnosis of syphilis than any other worker. His methods have been widely heralded and adopted, and particularly by a vast number of small laboratories that depend entirely upon this test. If every technician who daily performs the Kahn test would read and could understand the theoretical knowledge contained in the first sixty-four pages of explanations about the possibilities of variation in this very reliable but complicated test for syphilis the end results would be far different.

Dr. H. W. Butler, working in my laboratory in Tulane University, following an exhaustive review and study of precipitin tests devised and published in 1926 a technic for a rapid precipitin test for syphilis[2] that while essentially a modification of the Meinicke test[3] possessed a number of unique advantages that placed the test within the realm of actual possibility of successful performance in other than the highest class of specialized laboratory where additional serologic data, such as the Wassermann, could be performed as a competent control. An outline of this test was included in the recently revised edition of Practical Clinical Laboratory Diagnosis[4] by Dr. C. C. Bass and myself after having observed the use of this technic by medical students as well as in private laboratory practice for several years.

The daily use of the Butler test has revealed several disadvantages which led me to continued experimentation and has apparently resulted in a number of improvements which are radical enough in my opinion to constitute a distinct modification of the original test. Without entering into any discussions of the reasons for the various changes, the present improvements may be enumerated as follows:

1. Antigen. A stable antigen that has proven to be easily duplicated, and which gives an optimum sensitivity when diluted with normal saline. This saline suspension is quite stable, having a Ph. of 6.8, and lessens the possibility of non-specific precipitations.

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2. A method of boosting the precipitating power of syphilitic sera by simple drying. While the effect of the procedure is somewhat analogous to the heating of serum to 56°C for thirty minutes as recommended by Kahn and others, this method of boosting obviates a costly thermostat and seems to be slightly more effective. If this principle has been described elsewhere, I have not noted it in a fairly comprehensive search of the literature.

3. A short and definite time limit for the reaction—3 to 5 minutes. With the original Butler, the variable time of reading the reaction often left one in doubt whether the reaction had gone far enough or too far. Rapid drying also tended to obscure the weaker positives.

4. Applicability to spinal fluids. I believe I am fairly safe in saying that the greatest drawback encountered in the spread of the use of precipitin tests for the diagnosis of syphilis has been the unsatisfactory readings obtained with spinal fluid. Apparently this antigen is particularly well suited to react in the presence of traces of ammonium sulphate which are inevitably left in concentrating the globulins. By utilizing the globulin content of at least 5 c.c. of spinal fluid, I have been able to elecit beautiful reactions on known treated cases that would only give a Wassermann with the largest amount of spinal fluid that could be utilized in a complement fixation test. The excessive globulin fractions of tubercular and poliomyelitic fluids on the other hand always tend to protect against precipitation, so that a very contrasty reaction is evident.

TECHNIC.

ANTIGEN (Stock).

Alcoholic extract of powdered beef heart ..... 90.cc.

(Difco powdered heart first defatted with two washings in acetone of ten minutes each. Dry thoroughly and extract in incubator for three days with 98 per cent grain alcohol, one gm. powder to 10 cc. alcohol).

Alcohol, 98 per cent (grain) ..... 10.cc.

Balsam of Tolu, 10 per cent alcoholic solution ..... 4.5cc.

(This balsam must be repurified by two precipitations with water from a saturated alcoholic solution).

Benzoic acid, 1 per cent alcoholic solution ..... 1.25cc.

Cholesterin (Pfanstiehl quality) .... 0.56gm.

Mix in order given. Solution may be facilitated by incubator temperature.

SERUM TEST.

Place 0.15cc. (3 drops) of clear serum on a microscope slide. Spread out over middle third of slide. Allow to dry completely. Electric fan or incubator may be used to advantage. Dilute antigen by placing 0.4cc. isotonic saline (085 per cent sodium chloride) into a small test tube. With a dry pipette equipped with a rubber bulb take up and add 0.1cc. stock antigen to the saline. Mix by aspirating and ejecting the suspension with the pipette. This suspension may be made up in larger quantities and will keep perfectly suspended for the day's use. Add 0.2cc. (4 drops) of antigen suspension to the serum. With toothpick spread antigen over serum and by a circular rubbing motion facilitate solution.

Agitate the slide occasionally by rocking it from side to side. The reaction is complete within 5 minutes. Read by indirect light and discard.

Three readings are possible:

1. Negative—the solution retains a clear opalescence.

2. Definitely positive—A fine, discrete, yellowish granulation forms which is quite definite and should occasion no question after having been once observed.

3. Strongly positive—A heavy, discrete, yellowish granular precipitate which forms very quickly.

Quantitation. A true measure of the reagent—or precipitin—may be obtained in units by fractionating the quantity of serum

used—and this is in no way disturbed by artificially altered systems of dilution or "overdosage."

If drops are used they should be made with a small tipped medicine dropper held at angle of 45° from the vertical.

SPINAL FLUID TEST.

Place 5cc. clear spinal fluid in a conical bottom centrifuge tube.

Add 5cc. saturated aqueous solution of ammonium sulphate.

Mix and allow to stand for 3 hours.

Centrifuge in electric machine to pack sediment.

Invert tube and drain for at least 5 to 10 minutes. Wipe mouth of tube dry.

Add one drop of normal saline by dropping directly to bottom of tube.

Mix, dissolve precipitate and transfer to a microscope slide by means of a capillary pipette.

Make a control by using one drop of normal saline on another such slide.

Add to each slide 0.2cc. (4 drops) of antigen suspension. Mix and read as for the serum test. A 1 to 3 dilution of antigen and saline is somewhat more sensitive in this instance than the usual 1 to 4 dilution.

INTERPRETATION.

In general the results of this precipitin test are the same as for the Wassermann reaction. In common with all full-sensitive precipitin tests the following variations will be noted:

1. Early syphilis. In the pre-eruptive stages the "positive" Wassermann may appear several days earlier than the precipitin.

2. Treated cases usually continue to show a definite or strongly positive reaction for some months after the Wassermnan has become negative.

RESULTS IN USE.

In a small series of 334 patients seen largely in private practice the precipitin test was in agreement with the Wassermann (original method with Kolmer standard antigen) [5] in 44 positive and 270 negative cases. Two positive Wassermann reactions were found with negative precipitin tests. Eighteen positive precipitin tests were found with negative Wassermann reactions. Of this last group, 11 were known cases of syphilis during treatment or observation, so that there is definite evidence that this test was more sensitive than the Wassermann in this type of case.

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DISCUSSIONS.

Dr. Chaillé Jamison (New Orleans): I am sure that you have all enjoyed Dr. Johns' very remarkable demonstration as much as I did the first time he demonstrated it to me.

I don't think you appreciate, however, unless you do your own laboratory work, what a really self-sacrificing effort that has been on his part. Here he comes before us and tells us how to do a simple thing in a few minutes, which means that we frequently do not send patients to the laboratory for the more elaborate Wassermann test. That is particularly true when this test comes out negative, because all of the work up to the present time points to the fact that the precipitin test is more delicate than the Wassermann.

The technic that Dr. Johns has demonstrated this afternoon is really a modification of that of Dr. Butler which was demonstrated year before last before this Society, which in its turn was a modification of the original Kahn reaction.

I have followed all of these steps, and the last one that Dr. Johns has shown to you today has appeared to me to give the most clear-cut reaction; the easiest to read. I don't want you to misunderstand me. I don't want to make any invidious remarks about the Wassermann reaction. I did Wassermanns for many years. I have made a good many dollars out of Wassermanns, so I don't want to cast any stones at it.

Really, this test gives us just as much information as the Wassermann reaction, and when it is negative I believe it means a little more than the Wassermann. Furthermore, it is not nearly as technical. There are very much fewer possibilities of mistakes in the reaction that Dr. Johns has shown you this afternoon that there are in the Wassermann reaction.

The points that he made which I think should be emphasized are: First of all, the fact that the antigen can be duplicated time after time. That is, it is a standard antigen, an absolutely essential step in all such reactions.

I think we have all, after a good many years of experience with the Wassermann reaction, felt that a test that we can do simply in our own offices to check up the Wassermann is bound to be of value, that it is going to save some deplorable mistakes perhaps. I think, again, the point that Dr. Johns made about the persistence of this test in treated cases is of particular importance. We may feel about the precipitin reaction presented to you this afternoon when a patient becomes negative that the chances of him having syphilis even after treatment are very remote.

It is not, of course, as delicate as the tuberculin reaction in tuberculosis, but it approaches it very closely.

Finally, I should like to recommend this test to you from a considerable personal experience with both the Wassermann and the precipitin reactions, and I should like to recommend it particularly to those men who are isolated, who have difficulties with their reagents, and especially to those who wish to keep a personal check on the laboratory work on the cases examined by themselves.

Thank you.

Dr. F. M. John (closing): Mr. Chairman and Gentlemen: Frankly, I have always believed that a certain amount of this clinical laboratory work easily fits into a doctor's time if he has the energy and ability to do it. For this reason I believe such a relatively simple test as this is of great value to persons who care to run over a large number of patients routinely. It is always good or necessary to have confirmation from a laboratory when in doubt. It makes no difference how well you think of your own diagnosis, you occasionally want to call in a consultant to agree with you. From the standpoint of competition I think the specialized laboratory is perfectly safe.

In following treatment of a known case of syphilis frequently made precipitin tests are of more value in the hands of the therapist that an occasional blood test performed by a separate institution such as the laboratory, and for this purpose this test is pre-eminently suited.

PRECORDIAL PAIN.*

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In presenting a paper of this title, my main object is to try and correlate several facts in regard to just what we should know when a patient comes to us complaining of pain or distress around the heart.

In speaking of the precordium, anatomically we mean the area that marks the shadow of the heart on the anterior aspect of the chest wall. However, clinically speaking it extends beyond these boundaries at times, occasionally down as far as the xiphoid process or over as far as the right nipple or as high up as the intraclavicular notch.

The symptom "pain" may be sometimes presented as burning, pressing, constricting, strangling, gnawing or cutting, either of which may have a special bearing on the cause of the condition. Pain is a reaction of the organism to a harmful stimulation, which is usually a warning of approaching danger. The character and intensity of the stimulus, and the perceptive power, or sensitiveness of the individual, are points to be appreciated.

Ability to localize pain is best developed in the structures at the surface of the body, for the receptor organs there are directly connected by means of sensory neurons with the central nervous system and the sensation is carried from each part to a corresponding pain area in the brain. Pain sensation of the viscera, however, is conveyed by the sympathetic afferent neurons which make connections with the sensory neurons of the voluntary nervous system in the segment of the spinal cord in which they enter, and from there are conveyed to the brain. For this reason

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irritation occurring in internal organs is not necessarily felt in the location of the organ, but may be referred to an area on the surface of the body, the nerves of which are in synaptic relation in the spinal cord with the sympathetic neurons supplying the corresponding organs. Referred pain may thus be felt at a great distance from its seat of origin.[3]

In addition to referred pain there are two other classes of reflex manifestation of harmful stimulation of a viscus. The first is the class of reflex which may induce remote organs such as gastro-intestinal, vasomotor, pilomotor and others to become hypo—or hyperactive. The second is the so-called viscero-motor reflex resulting in the contraction of surface muscles which overlie the affected organ. This is best demonstrated by the rigidity of the abdominal muscles in the presence of acute intra-abdominal disease.

Distribution of pain in cardiac disease follows the above principle described. The surfaces affected are the chest, left shoulder, arm and forearm, especially the ulnar side and outer two fingers. Occasionally the right arm, left side of neck, orbital region, left ear and lower jaw may be affected. The viscero-motor reflex gives sensation of constriction of the chest due to contraction of the intercostal muscles, and if the impulses are strong we may also observe the reflexes affecting other organs such as the salivary glands, producing increased flow of saliva, the kidneys, increasing urinary secretion, the stomach, producing the sensation of belching, gaseous eructation and vomiting. Reflexes affecting the respiratory center give a sense of suffocation, impending dissolution and imminent death, in the more severe forms. Vaso-motor affections produce a sense of fainting, collapse, pallor and cold clammy perspiration. The constant bombardment of the spinal centers by afferent impulses produces a state of hyperirritability resulting in hyperalgesia of the skin and superficial muscles in the regions affected, designated as "tender spots."

An analysis of 100 cases of cardiac pain, by Baird, shows causes as follows: Heart failure or myocardial weakness, 42; angina pectoris, 15; cardiac neurosis, 17; hypertension, 17; chronic endocarditis, 7; syphilitic aorititis, 2.[1]

As a reflex and referred phenomenon, pain in the region of the heart may be due to affection of other parts or organs. A working classification of such pain would, therefore, perhaps be of value and may be suggested as follows: 1. Pain of cardio-vascular origin. 2. Pain of extra-cardic origin. 3. Hysterical pain, and 4. Psychic or neurotic pain.[2]

Those of cardiac origin comprise by far the greater percentage, and are always justly looked upon as serious until proven otherwise. All such pains vary as to character, severity, duration, location, radiation, associated symptoms, precipitating factors and its response to treatment; therefore, the necessity for an accurate differential diagnosis. Allow me to say that we should not depend too much on methods of precision for a diagnosis. I consider a careful history of utmost importance; then a careful physical examination and, lastly, not altogether as a method of checking up, but for more complete study of the case, the modern methods of precision. After availing ourselves of all of these methods we are occasionally still in doubt as to correct diagnosis, hence the importance of careful repeated observations.

First among the cardiac causes of precordial pain is angina pectoris, a condition seen by every practicing physician. Many themselves are among its victims. It is that spasmodic type of heart pain, so dramatic that its paroxyms is not always an indicator of its severity. The attack occurs most often after the age of 40. The attack is usually precipitated by some sort of mental or physical exertion. Fright, violent anger

or great excitement, such as some men experience on sudden changes in cotton quotations, frequently precipitate attacks. The attack is characterized by excruciating, burning, vice-like, crushing, squeezing, tearing, strangling, constricting, choking or oppressing sensation, or a violent substernal pain radiating to the left shoulder and arm. Because of the guarded prognosis which must necessarily go with the diagnosis, the writer feels that snap-shot diagnosis are especially unwise in this class of patients. The patient should be given in most instances the benefit of any doubt, and only a tentative diagnosis of angina should be made until doubt is removed. Also we bear in mind that the true nature of the condition may be forcibly revealed at any time by the sudden death of the patient during an attack.

Angina pectoris may be confused with pseudo-angina pectoris and toxic angina pectoris. Although ignored by some authorities these conditions undoubtedly exist. They are much less serious in character than angina pectoris, but are worthy of consideration in diagnosis.

The characteristics of a true angina pectoris are as follows: The onset is sudden, and follows mental or physical exertion. The pain is severe, substernal or precordial in location. As a rule reflection is present, most commonly to the left shoulder, arm, forearm, and to the fingers. The reflection may involve the right upper extremity instead of the left, or both. Or the pain may be reflected into the neck, lower jaw or the widely distributed areas. It is severe in degree and is accompanied in even relatively mild instances by a sense of fear or apprehension, out of proportion to the calm judgment of the patient in his uninvolved moments. Except when coronary thrombosis has taken place, partial to complete relief is afforded by rest and the nitrites. There may be more or less shock associated with the attack.

Electrocardiographic evidence of coronary diseases or of lesions of the heart muscle may be found. Failure to discover such changes does not contradict the diagnosis, but when found in typical form, the electrocardiogram in association with characteristic symptoms may be considered as absolute.

In considering precordial pain due to coronary thrombosis, which is similar in several respects to that of angina pectoris, the onset is usually different.

Symptoms of coronary thrombosis may come on suddenly with or without preceding exertion. History of several previous attacks with normal intervals is less likely than in true angina pectoris. In individuals above 40 years of age, with previous history of hypertention, coronary thrombosis is likely to occur. The pain may last for hours or even days, and the radiation is similar to that in true angina except for a tendency to involve the epigastrium. It is not relieved by nitrates and is rarely entirely controlled by large doses of morphine. It is associated with collapse, rapid and often irregular heart action, cold clammy perspiration and an ashen gray skin. Death may ensue early or the patient may survive, depending on the location and size of the infarct. Dyspnea is almost always evident and cyanosis is present particularly if the infarction is on the right side of the heart. A sudden drop of the blood pressure is usual, at times as low as 40 m. m. The heart sounds become faint and muffed and a pericardial friction rub may appear several hours afterwards. There is slight fever and leukocytosis, following within about 36 hours. Electrocardiographic tracings show significant changes in perhaps 85 per cent of the cases, such as inversion of the T wave, depression of the R. T. segment and at times evidence of bundle branch block, or certain arythmias. It is in these infarcted cases that the pain is much more likely to be in the epigastrium, thus stimulating intraabdominal diseases. It is here that our best judgment

should be used in avoiding confusion of the diagnosis with that of acute pancreatitis or ruptured duodenal or gastric ulcer, or an acute gall bladder condition. These patients when erroneously operated upon usually die promptly.

Myocardial weakness is the most common cause of precordial pain. It is associated with fatigue of the heart muscle. The myocardium may be so damaged as to give plain evidence of interference in function, or the damage may be so obscure as to be difficult to demonstrate. The intensity of the resulting pain is not directly proportionate to the extent of the weakness of the myocardium. The size of the heart, its shape, rate, and rhythm often give valuable aid in diagnosis. If the pain radiates, it is likely to extend around the chest into the back. Compression of the esophagus by the dilated left auricle can frequently be demonstrated by roentgen-ray, and this is often the first positive indication of myocardial disease. The correct recording and interpretation of blood pressure, the exercise test which will always aggravate the pain, and in certain cases the electrocardiogram, are all useful in detecting this condition.[4]

There is another type of fatigue pain associated with hypertension and sclerosis of the coronary arteries. These cases often have angina-like pain following exertion. This type of fatigue pain is apt to be precordial and of rather long duration. It does not radiate to the arms or disappear with nitrite therapy.

The pain of pericarditis is easy to differentiate because of its sharpness, its duration, and the presence of precordial friction rub with evidence of infection.[8]

The pain of aortitis and aneurysm is also easy to differentiate. Such pain is usually substernal, often to right upper sternum especially if the ascending aorta is involved, as is usually the case in late syphilis, but is more of a prolonged ache. There may be pain referred to the back.

The pain of paroxysmal tachycardia, flutter or ectopic auricular tachycardia should be easily differentiated by the appearance of palpitation, usually marked, by the long duration of the paroxysms, and in the arhythmias by the very irregular or rapid pulse at the time of the attack. However, these conditions may also develop precordial pain usually severe, of fatigue origin, and unless there is a careful analysis of the case it may be called angina pectoris, converting a favorable prognosis into an unfavorable one.[6]

The precordial pains of extra-cardiac origin comprise a much smaller group, the prognosis usually being better. These may be due to pleurisy, pulmonary diseases, herpes zoster, intercostal neuralgia, and neuritis, myalgia, muscle strain, bursitis, rib or arm injury, mediastinal diseases, indigestion, gastric or duodenal ulcer, gall-bladder and liver diseases, pneumothorax, spondylitis, tumors and diseases involving posterior roots of the spinal nerves, locomotor crisis, and organic diseases of the esophagus. All of which may be successfully differentiated from the other, both by symptoms, signs and physical findings, the details of which time will not permit me to discuss.

There are other precordial pains that may be classed as hysterical, psychic or neurotic in origin.[4] In these conditions the difficulty is to rule out, after repeated examinations, the possibility of serious heart disease. The pain here is often apical, short, and sticking, occasionally associated with a slight tachycardia, it is not controlled by the nitrates and is more of a precordial hyperesthesia. It often is seen in young people with sensitive overwrought nervous systems, with palpitation, dyspnea, dizziness, and a tendency to faint easily. These patients often have various tremors and a tendency to flushes.

In closing, I would like to emphasize the close relation of the painful heart disorders to diseases of the coronary arteries.

In Raynaud's disease we have intermittent spasm of the vessels of an extremity. It is now common knowledge that lumbar sympathetic ganglionectomy will permanently relieve this spasm. However, if we have obliteration of the arteries of an extremity, as in Buerger's disease, ganglionectomy will not relieve the symptom, because the vessels are not closed by spasm, but by permanent sclerosis. There is strong evidence to support the belief that this same reason applies to the coronary arteries. Sympathetic ganglionectomy has been tried in treating true angina pectoris. In some cases the results are good, and in others poor. It is probable that in cases with intermittent spasms of the coronary arteries as in Raynaud's disease, ganglionectomy gives relief; but if the arteries are partially obliterated as in Buerger's disease, the ganglionectomy fails to give relief.

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DISCUSSION.

Dr. Whitman Rowland (Memphis, Tenn.): Dr. Clark has brought to us a paper so pertinent and important that it should not go without considerable discussion. When we realize that heart disease is killing more people than any other disease the importance of any discussion of heart disease is particularly accentuated. Every day we read in the paper of the death of some important or not important citizen from heart disease. Dr. Clark has discussed very nicely the significance or precordial pain. There is perhaps no other symptom, whose age incidence of occurrence, bears more true relationship to ultimate prognosis than precordial pain. From childhood to adolescence we may, in most instances, regard it as transitory in nature and of little significance. On the other hand attention has been called to the occurrence of precordial pain, anginoid in character, occurring in young individuals who have been the victims of rheumatic heart disease. However in these cases the occurrence of precordial pain does not, in itself, indicate a poor prognosis as to life. When the so-called cardiac age is reached, generally from forty to sixty years, precordial pain or sensation takes on a peculiar significance. The medical student easily recognizes the classical attack of angina pectoris and appreciates the significance of the symptoms. Deviations from the typical, however, present a problem in diagnosis and call for the utilization of our best efforts, both clinical and mechanical, in an attempt to establish the existance or non-existance of coronary disease. Coronary thrombosis is now generally recognized by the occurrence of a sequence of signs and symptoms such as: precordial pain, rise in temperature, fall in blood pressure, etc. While the symptoms of coronary block are most generally recognized it seems to me that the sequential occurrence of the symptoms and the clinical obvious presentations are dependent upon the size of the artery blocked. There can be no question that there are many atypical symptoms of coronary occlusion. Further there can be no question but that these symptoms are difficult of recognition, and not infrequently overlooked. One is thoroughly justified in the statement that vague abdominal disturbances, associated with heart consciousness, are presenting symptoms that should lead the astute clinician toward a thorough investigation of the condition of the heart and blood vessels.

Dr. L. J. Clark (closing): I wish to thank Dr. Rowland for the excellent discussion. The form of pain he mentioned in rheumatic hearts in the young is of utmost importance.

We should bear in mind that there are other significant sensations about the heart, than pain. And I would have, indeed, been very glad to have taken this up, but there seems to be a general tendency among the laity to class all of these sensations as pain.

THE TREATMENT OF VARICOSE VEINS AND VARICOSE ULCERS BY INJECTION OF SCLEROSING SOLUTION.*

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AND

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In accepting the treatment of varicose veins by injection of sclerosing solution, many will learn that the procedure is not as simple as one might expect on first consideration. Many minor complications will arise which are not anticipated, and even thought they do not make the method hazardous, they caution one to use every care in technic.

The disability resulting from chronic leg ulcers and varicosities presents an economic factor which is unequaled by any other in medicine today. Many of these patients have ulcers of years duration which have caused months and years of loss of work, and often months of confinement in hospitals. There should also be mentioned those cases of housekeepers who must endure the pain and discomforts accompanying these conditions. Again, we must consider those people who are rejected for many positions because of this condition.

The age of incidence of varicosities of the lower extremities vary; our oldest patient being 74 years, and the youngest 17 years. In our series the female sex predominates: the ratio being 3.1. We find that the occurrence in the colored race is about the same as that in the white.

We are convinced that in this method of therapy of varicosities of the lower extremities we have a relatively simple and very effective procedure for dealing with a condition formerly amenable only to operative procedures requiring a general anesthetic and a prolonged period of convalescence; even after enduring such discomfort, there was a recurrence of the varicosities in a fair percentage of cases. Many patients were inclined to endure the pain and discomforts caused by the diseased veins, rather than submit to operation. The injection method of treatment is ambulatory; requiring no hospitalization or confinement to bed, no anesthetic; and the patient is encouraged to continue his usual routine. The danger of embolism, according to statistics gathered by McPheeters and Rice, is small; they report seven deaths in approximately 53,000 cases treated by the intravenous method. This is a mortality of 0.0024 per cent, and that following operative procedures is 0.770 per cent; the occurrence of embolism following operation is 7.2 per cent. There are no mortalities on record following the use of the two solutions that we recommend.

In 1858 Chassaignac used iron perchlorid in three minim doses to obliterate varicose veins. While satisfactory results were obtained in some instances, the method was doomed to failure because of the unpleasant and severe complications that resulted, and it soon fell into disrepute. Valette in 1875 used a solution of iodine and tannic acid with some success. Tavel in 1904 recommended the use of a 5 per cent solution of phenol. Brocherd in 1910 used arsenical preparations on the assumption that all varicosities were of luetic origin.

Of the recent workers, the French must be given the credit for placing this method of treatment before the medical profession on a practical and efficient basis. The names of Sicard, Gaugier and Genevrier are pre-eminent. Forestier and Douthwaite must be given credit for later work. There are two English authors, other than Douthwaite, who also deserve acknowledgment: Ronald Thornhill and J. D. McLatchie.

Concerning the etiology and pathology of this condition we refer you to a previous paper in which these phases were described in detail. Briefly, some of the factors playing an important part in the etiology are:

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Plate 1A.—A. B., male, 54 years. Varicose veins with two large ulcers, 19 years duration.

an endocrine dysfunction with mechanical factors superimposed; as in motormen, store clerks and others who remain on their feet for long hours; and heredity. The pathology is chiefly a degenerative process in the walls of the veins, most marked in the muscular coat, resulting in the collagen degeneration observed by Kashimura. The veins then lose their resiliency, dilate and at the same time elongate, finally producing the clinical picture of varicose veins.

Normally, the flow of venous blood in the leg is from the superficial to the deep vein. In varicose conditions there is a reversal of this flow due to the incompetency of the valves in the communicative branches between these sets of veins. Jentzer, using the radiograph and injecting strontium bromid; and Magnus, using a haemodrometer, have shown that, when the leg is in a vertical position or is raised to an angle of 45 degrees, the flow of blood in the superficial veins is centrifugal, and when the leg is horizontal the flow is either stationary or that toward the heart is slower than the centrifugal stream when the leg is vertical (Forestier). The valves in the communicating branches being incompetent, the blood now flows from the deep to the superficial

Plate 1B.—Left lef of patient A. B., 3 weeks after treatment begun.

veins. Magnus has also shown that there is a reversal of blood flow in the skin capillaries of the leg. This changed flow of blood leaves the extremity with an abnormal circulation as evidenced by tracing the course of the blood centrifugally in the superficial veins, being supplemented throughout its course by blood coming from the deep veins via the incompetent valves in the communicating branches; the blood reaching the deep circulation in the foot either through the skin capillaries, or through the anastomotic veins, then flows upward in these deep veins, some of the blood again passing to the superficial set via the incompetent communicating branches and that which reaches the fossa ovalis may again return to the superficial veins and repeat the same cycle. The results of this are that the nutrition of the skin and superficial structures of the leg is very much impaired and the resistance to any pathological process is lowered. These factors have an important bearing on the etiology, chronicity and treatment of varicose ulcers and varicose eczema.

The action of the sclerosing solutions when injected into a varicose vein has been given various terms. Sicard suggests that the process is essentially a chemical venitis and not a phlebitis. He differentiates the two terms by defining venitis as "being localized, generating a very adhesive clot, which does not give rise to pain or edema of the extremity, leaves an atrophied cord, and has positively no tendency to give rise to emboli." Phlebitis causes pain, has frequent extensions from the superficial network to the deep set of veins causing edema of the extremity, the clot formed is often loose or afloat in the blood in the dilated cavity, atrophy does not take place, and veins remain hard and bulky, recurrences are frequent, which may give rise to emboli.

There have been many preparations which have been tried and there are still many being used at the present date. However, only four of these are widely used.

(1) Quinin-urethane solution,† according to the formula of Genevrier, containing quinin hydrochlorid 4 grammes, urethan 2 grammes, aquae dist. q. s. 30 cc. Possibility of quinin idiosyncrasy should be kept in mind, and the original dosage should be small.

(2) Sodium salicylate in 20-30 and 40 per cent strength. The 20 per cent solution rarely gives results while the 30 per cent solution brings about the desired reactions in practically all the cases. The 40 per cent strength may be used in those cases in which there is no response to the 30 per cent solution, but the dosage should be relatively smaller. The objections to the sodium salicylate solutions are two; first, there is cramp of varying intensity along the course of the veins injected (this is of special importance in the use of this method in treating women); and secondly, if the solution escapes from the vein into the surrounding tissues the reaction may be severe enough to produce a small slough, which readily heals though at times the progress is slow.

(3) Sodium salicylate 30 per cent and sodium chloride 10 per cent. This combination is thought to be more constant in its action than the salicylate alone, though the objection to its use are the same.

(4) Sodium chloride in 25 per cent solutions is recommended by one author who has had a rather extensive experience with this method of treatment, despite the fact that sloughs, so extensive as to require surgical attention, have been reported as not infrequent occurrence. A cramp also follows the injections of this solution.

Other solutions used are: glucose, in 66 per cent solutions, mercuric chloride 1 per cent, calorose, an invert sugar preparations, alcohol, red mercuric iodide, sodium citrate, grape sugar, and others.

The quinine-urethan solution is, in our opinion, the solution of choice. It can be

†This formula is prepared in 2 c.c. ampoules and distributed by P. D. & Co.

Plate 2A.—D. K., male, 40 years. Varicose veins with small ulcer.

used in small doses, does not produce a cramp following injection and can be used in 2 to 4 minin doses for perivenous injection in small unsightly varicosities. It is an efficient sclerosing agent in all types of varicoses and, in our experience, has responded exceptionally well in the large, thick-walled types of varicosities. The dosage should never be more than 0.5 c.c. at the first sitting; preferably using 0.25 c.c. at each site, for many varices respond to this dose and are obliterated. At following sittings the injections may be up to 1 c.c. at each site and not more than 4 c.c. at one sitting. It should be remembered that different individuals require varying dosage; a small dose may be sufficient in one person, and another require 1 c.c. at each site. The disadvantage is that of quinin idiosyncracy, but, as yet we have not encountered a single case who has presented this difficulty. It should not be used during pregnancy because of the possibility of producing abortion, though the dosage is too small, theoretically, to cause this. In either instance, one must resort to the next solution of choice; sodium salicylate in 30 per cent strength using 2 to 3 c.c. at each site, and a maximum of 10 c.c. at one sitting.

The immediate reaction is of no significance from the patient's viewpoint though there may be a slight burning sensation which quickly subsides. Within a few hours (3-12) there may be a slight localized swelling, edema, and variable degree of tenderness along the course of the vein injected. The morning following injection, the patient may experience some stiffness on getting out of bed, but this soon passes away. This subsides in one to three days, and a firm thrombosed vein remains in the place of the dilated tortuous cavity that existed before injection. This gradually decreases in size due to replacement of the

Plate 2B.—Patient D. K., 6 weeks treatment.

thrombus by fibrous tissue and subsequent contraction and is usually entirely gone in one to six months though it may still be palpated as a small fibrous cord that is not visible. Occasionally we see a pigmentation along the course of the thrombosed vein which disappears in two to three months. There is also some complaint of an itching sensation over the entire leg that subsides in three to six weeks. Among other complications there was one female patient who complained of a slight chill that occurred about three hours following injection and lasted from one to three minutes, then disappeared. Several patients have developed a moderate amount of edema about the site of injection, especially when the perivenous method was used, but this quickly subsided. There have been no sloughs with the use of quinin-urethan, and an occasional small slough following the use of sodium salicylate that did not require any attention excepting bandaging.

The beneficial effects are, in the majority of cases, noticed immediately. The extremity no longer aches, nor has the usual cramp when used. This is progressive, and often at the end of one or two weeks, the extremity cases to give any disagreeable sensation at all. Improvement is noticed in the general condition and nutrition of the legs. The eczema and ulcers caused by the disturbed nutrition will naturally tend to disappear when the factors producing the disturbance are corrected. This has frequently been known to occur; nothing other than application of simple ointments to the ulcers during the injections, and the ulcers disappearing when the veins have been thrombosed. When one meets a case of long standing, it may be best procedure if an Unna's boot is applied for a period long enough to bring about the subsidence of the edema, thus rendering the varicosities more accessible. Subsequent application of Unna's boot during the treatment and for varying periods following it, assist materially in the long standing chronic cases with massive edema and large areas of ulceration, in allowing the tissues of the leg to regain an efficient superficial circulation, which has been the result of the obliteration of the varices. At times, old chronic ulcers with hard edges heal more rapidly if the ulcer is strapped with adhesive, using small strips (0.25-inch wide) leaving narrow spaces between each strip for any secretion to drain, and drawing the two edges together, strapping for one to two inches both above and below the ulcer margins, relieving the tension on the edges and promoting epithelization. If the more severe case does not respond to this we can resort to grafts, after the varicosities have been obliterated and the superficial circulation thus improved.

Mention of three cases may be of interest and will call attention to the benefits derived and the economical advantages in restoring these patients to their ability to maintain themselves and their families:

CASE REPORTS.

I. C., male, aged 59 years, first noticed varicose veins of his lower extremities 18 or 19 years ago. Three years later a small ulcer appeared which gradually grew larger. For thirteen of the past fifteen years he has been incapacitated because of these varicosities and the ulcers, working only for short periods and then doing very light work. Pain and discomfort has been intense. Spent four months, before present treatment with injections began, in a hospital. Has had no operation though numerous boots have been applied. Left leg when first seen was edematous and there were several large ulcers covering the front of the leg. Injections of quinin-urethane were instituted, with application of zinc oxide and balsam peru to ulcers. Injections continued over a period of six weeks, varices being obliterated at the end of this peroid. The normal use of the leg gradually returned and by the end of the fourth week the patient asserts that the leg no longer bothered him. Improvement was noticed almost immediately in the general condition of the leg and one week after the injections were completed the ulcers were entirely healed over. He has been moving about more than ever since the treatment and resumed his occupation.

2. F. J., male, aged 40 years had had varicosities of lower extremities for thirteen years, with an ulcer for a slightly shorter duration. He had been incapacitated for the greater part of this time and had been in a hospital three times for

Plate 3A.—J. B., male, 40 years. Varicose veins with ulcer, 11 years duration.

periods of four to five months each time. Had had no operative procedures. The remaining portion of his time had been spent in regular attendance at a clinic. Treatment with quinin-urethane extending over a period of twelve weeks showed immediate improvement and progression. The patient worked during the entire treatment. A small area of ulceration still remains.

3. J. S., male, aged 48 years, had had varicosities and an ulcer on his left leg for seventeen years. He had continued working during this period but asserted that he lost a better job than he now has because of the disability attending his varicosities. Had been in hospitals twice for two or three weeks each time. Attended clinics as often as possible. There was a severe eczema accompanying the ulcer and varices. After three weeks of injections the ulcer had disappeared and all symptoms had been gone following the second week of treatment. The eczema responded more reluctantly but was entirely gone at the end of the fifth week. There still remains a large discolored area on the leg but this seems to be gradually fading. The quinin-urethane solution was used in this case also.

For the injection an ordinary 2 c.c. glass syringe with short beveled, 24 or 26 guage needle, about 1 inch long, is necessary. A small needle of this sort lessens the pain on puncture and also leaves a smaller hole in the wall of the vein. A larger syringe, 5 c.c., when using the sodium salicylate solutions.

As a rule, the patient assumes the sitting position with the leg horizontal or at an angle of 45 degrees. If the varices are not

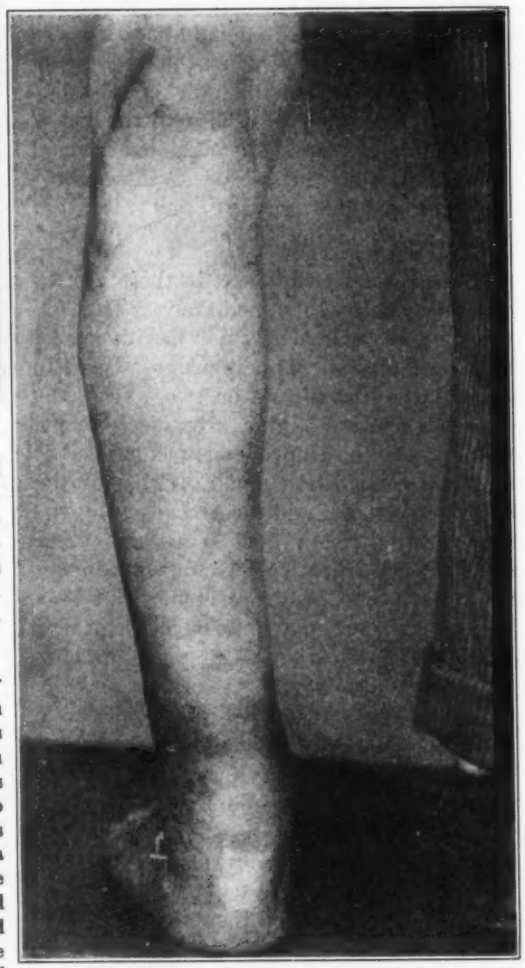

Plate 3B.—Patient J. B. 8 weeks treatment.

large enough to be visible when in this position, the patient may stand and bear weight on the extremity until the needle is in the lumen of the vein; then he may assume the sitting position again, and elevate his leg and the injection made in a similar manner as when in the sitting position. No tourniquet is usually necessary, though there are no contraindications to its use while making the puncture of the veins. In the large tortunous veins, and in the clusters, the "empty vein" method as recommended by Thornhill is ideal. The patient should exert digital pressure over the vein to be injected about two inches above the site of injection and the operator exerts pressure at same distance below. Enter the vein directly and injecting the solution continually rechecking to determine if the point of the needle is within the lumen of the vein. Leave needle in position for about 1 minute after completing injection. After the injection exert digital pressure over the site of injection with a small dry piece of gauze, and from two to three minutes later apply a piece of adhesive over this gauze tight enough to exert pressure. The patient remains in the office for five minutes following his last injection, and then is allowed to go and is urged to continue his usual routine. Subsequent injections are given at two to three days intervals depending on the intensity of the local reaction.

The question of beginning the injections at the distal or proximal portions of the leg is one best decided on the merits of each individual case, though it would seem more logical to start at the distal portion and inject upwards, because of the pathological condition of the blood flow. Of course, in cases with varicose ulcers and eczema it is probably better to begin the injections at a distance from the potentially infected area.

CONCLUSIONS.

Varicose veins and their complications have always been one of the most difficult problems that have confronted the medical profession. They, besides producing discomfort and unsightly limbs, are of enormous economic importance in that they deprive industry of many men and women; resulting in the dependence of these men and their families on charitable institutions. The injection method of treatment offers a relatively simple but very effective method for reducing this condition to a minimum, and by the early injection of varices prevent the development of the chronic leg ulcers so resistant to treatment without any great expense to the individual and without requiring him to miss a single day of work—no matter what type of work that may be. The mortality is much lower than that of the operative treatment, and further varicosities are easily treated.

(1) Lyons, Shirley C.—Brewster, C. B. The treatment of varicose veins by injection of sclerosing solution. N. O. Med. & Surg. Jour. 81:498-504, 1929.

PHYSICAL RELATIONSHIP TO MENTAL RETARDATION.*

H. R. UNSWORTH, M. D.,

NEW ORLEANS.

In presenting this subject it is my wish to immediately disclaim any originality or profound research activities in regard to the contents expressed in this paper. The purpose of bringing this before you, is to call attention to the direct relationship of physical deformities, both congenital and acquired, and disease activities which are constantly attacking infants and young children, and leaving in their wake various degrees of mental retardation. There is so much being written and said in regard to abnormal psychology and mental retardation, predicted on environmental upheavals, that it is well to consider seriously the organic factors which most often in my opinion play the greatest cause in the majority of backward children.

In using the term mental retardation, it is to be distinctly understood that it is not

*Read before the Louisiana State Medical Society, Shreveport, April 29-May 1, 1930.

to be confused with amentia, of any type. Retardation is not amentia, does not lead to amentia, nor does it ever result in mental deterioration, (dementia). The important point in differential diagnosis, is the fact that when the cause of the retardation is removed, (often possible), the mental development of the child takes on "a new lease on life" so to speak, and eventually becomes normal. Mental retardation as such, plays no role after adult intellectual development has been attained. In such adults mental productiveness may perhaps be sluggish or lessened, or there may be such symptoms as general body toxicity resulting in physical incompetence, etc., all depended primarily upon the nature of the handicapping disease. But the term "mental retardation" in clinical psychology, is restricted to children—persons, whose intellectual development is still in the making, and who are thwarted, held back, and handicapped by some defect which prevents them from reaching mental maturity. Mental retardation may also be correlated with physical retardation, as in cases of malnutrition, in which the body is stunted as well as the mind. To be a little more more descriptive, mental retardation acts very much in the same way as the brake on an automobile. If the engine is powerful enough the car will be propelled despite the retarded influence affecting it. When the brake is released, the automobile goes ahead again at its original speed without the slowing up process having affected it permanently.

It is to be remembered that children who have suffered from mental retardation, will eventually progress in school and compete on equal terms with their fellows after the handicap has been removed by surgery, medical, or corrective proceedures. There are cases in which such recoveries take a long time, either because the handicaps have been numerous or of long standing. It follows, therefore, that the earlier in life the handicap is removed, the more quickly and more permanently will the child recover.

Though I do not want to give the impression that functional disorders, such as faulty adjustments either within the very mechanism of the mind itself, or in the environment outside the mind, do not produce a percentage of mental retardation, yet, my observation and contacts with some of the children of the public schools in the State, who I have examined, has rather definitely suggested to me that the greater number by far, who are backwards both mentally and physically, are the unfortunate victims of malnutrition and organic diseases. Very prominently among these causes are congenital syphilis and distinct biological defects.

Briefly some of the most common organic conditions responsible for mentally retarded children are: adenoids, large tonsils, mild degrees of epilepsy (petit mal). The more severe forms of epilepsy (grand mal)—Jacksonian epilepsy, congenital syphilis, tuberculosis, chronic illness, such as: heart and kidney diseases, sense deprivation: (deafness, blindness, etc.), rickets, disturbances in the glands of internal secretion—gross physical handicaps:—cripples, etc., masturbation, drugs, alcohol. (Incidently, I examined a boy in Shreveport in the Public Health Unit, who was mentally retarded a misbehavior problem, and learned that he was addicted to alcohol in the form of beer, given to him by his father). And last but not least, is the mental retardation which so often follows some of the more severe infectious diseases, such as: epidemic cerebrospinal meningitis, scarlet fever, measles and encephalitis.

In regard to the functional disorders likely to hold back a child's mental development may be mentioned, irregular school attendance, unfavorable environment, neurotic make-up, emotional instability, quick fatigue, sleep starts, poor memory and concentration, phobias and obsessions, hysteria and excessive sensitiveness and speech defects.

In going over my case records of some of the school children examined in Caddo

and Iberia Parishes, with Dr. O'Hara, a few of the outstanding organic phenomena responsible for the patients mental backwardness and physical deficiencies are the following: A child, seven years of age, suffering with the residuals of infantile paralysis —one of post traumatic epilepsy, eleven years of age, and still another infant of two years, suffering with encephalitis—and a patient, a child, with a cleft palate.

It is my hope that in calling attention to the significance of mental backwardness due to organic diseases, to impress this audience with the knowledge that a backward child is not always lacking in good mental make-up, but very often is lagging behind due to some correctable illness and that every youngster is deserving of a thorough physical and serological investigation before he or she is labeled as mentally deficient on a permanent basis.

DISCUSSIONS.

Dr. Clarence Pierson (Pineville): One of the most wonderful displays today of knowledge and progress is being made in cancer research. The basis which has been outlined by Dr. Miller and Dr. Vidrine has been that of preventive medicine in the control of cancer.

I think, in hearing Dr. Unsworth's paper a moment ago, that cancer plays a small part in the make-up of our social fabric of today as compared to the retardation of childhood. One is a disease itself; the other an affliction that human families suffer with. Therefore, mental hygiene, which is a prophylactic for social economic conditions of our today, is a solution, if you will, for an unrest and improvement of our general conditions.

I think no better words of expression of approval would be in order than to extend congratulations to the State Board of Health for the foresight in having established, as Dr. O'Hara has as president of the State Board of Health, an organization for mental hygiene splendidly manned by this energetic, forceful young physician who just read this able paper.

Mental hygiene is not a new subject, but mental hygiene has been capitalized the past few years. We all recall a few years ago that wonderful book written by Clifford Beers, who is the father of mental hygiene, while inmate of an institution in Connecticut, he having lost his mind and it becoming necessary for him to be treated. After having spent a long while in this institution and recovering his mind, he pondered and thought how he could best serve humanity, and he wrote the book called, "The Mind That Found Itself." From this inspiration, mental hygiene has grown in leaps and bounds the last seventeen years. He is still secretary of this great organization.

Only next week the fourth, fifth, sixth and seventh of May, there will be an international congress held in Washington, presided over by the President himself, on mental hygiene of the civilized world, all growing from the original work of Clifford Beers.

I say that subject is brought closely to us in Louisiana. The way has been paved by Drs. O'Hara and Unsworth, and I think we should offer every encouragement, every co-operation, every aid to derive the benefit in our local communities, in our parishes, in our public schools, in our eleemosynary institutions, in our penitentiaries which need so badly the aid and guidance of such mental hygiene work.

So I can't speak a word of cheer and co-operation more heartily at this time than to endorse what is being done in this line.

DUODENAL ULCERS IN CHILDHOOD*.

W. F. HENDERSON, M. D.,

NEW ORLEANS.

It is possible, and by some considered quite likely, that ulcers in the duodenum arise among patients of more tender years than has been generally supposed. Not all, of course, but some; such is the line along which a few observers project their thought. When I have done much more work than I now have, when thought becomes more mature, when surgical procedures multiply, when autopsies form a stalwart support to opinion, and when clinical experience speaks with no uncertain voice, we shall have adequate grounds upon which to base more certain belief and procedure. Until then it is necessary to proceed on wary feet.

I am fortunate this early in my own life, and this early in the awakening of clinical consciousness to their presence, to be able

*Read before the Section on Radiology at the Sixty-third Annual Session of the Mississippi State Medical Association, Vicksburg, May 14, 1930.

to report a fairly large series of ulcers, occurring in youth, seen in my Section at Touro Infirmary. I offer my evidence in the nature of a preliminary eport. This is to be taken for what it is worth. It is by no means all the available data which I have at hand. I hope ultimately to make a comprehensive report, in conjunction with my coadjutors, when all the facts shall be presented.

While reference is found in medical literature, it is scarce. I review the literature, and give a few of the references, none of which are extensive. A-Thoms (Lancet, 2-854-55-1924), thinks the disease is rare, and reports one case, with necropsy findings from the Queen Hospital for Children, London. Photographs of necropsy specimens are appended. Dr. Donald Patterson (Lancet, 1922-1-63), reviews the literature then extant, finding 100 reported cases in the United Kingdom, to which he added two of his own, with full reports. J. A. L. Loudon, in Edinburgh, reported an ulcer in a child of two months of age in 1925. The necropsy report is complete and convincing. American literature also contains reports such as that of L. B. Dickey (American Journal of Diseases of Children, 32-872-77-1926), with details of three well studied cases. His series being older than those previously reported, results of treatment appeared to be much better. There were no deaths, and therefore no necropsy reports. H. B. Wright (Archives of Pediatrics, 41-646-53-1924) gives a detailed report of an infant death, necropsy report and photographs of duodenal ulcer which caused death.

I believe that the most important single factor which we have to aid in the diagnosis of ulcer in children, is the recognition that they can and do exist. Without this essential, diagnosis dies aborning.

It is trite to say that second in importance is a well taken history. Its triteness does not detract from its truth. Information here will be revealed which points to epigastric pain usually called "stomach-ache." The pain of duodenal ulcer is frequently high up near the ensiform, in adults as well as in children. This pain is not always as definitely related to food as with adults, but is frequently so. The food relief is especially well marked, but since children's stomachs empty more rapidly, the pain returns more quickly with them than in their elders, and its prompt return may, therefore, become confusing. A child wakeful at night on account of "stomach-ache" should always excite suspicion. It most certainly would do so in a patient twenty years his senior. Are we closing our eyes to the possibility merely because we have calmly assumed ulcers to be a blessing reserved for the mature? We have no proof that they are so reserved.

Nausea and vomiting are such frequent accompaniments of other manifestations in childhood as to excite no positive lead in this direction. They should be noted and cataloged, however, as a part of the general story of the patient.

It would be interesting to know, in the light of the vast amount of work yet to be done, how many of our "difficult feeding" cases were really ulcers; how many of our undernourished children could have been cured, and fattened on an ulcer regime. I know personally of nine young adults with surgically proved ulcers, whose history is perfect back to the age of nine or ten. Of two thousand ulcer patients studied with this in view at the Mayo clinic, forty-two presented symptoms dating back to childhood; this is two per cent.

The third major diagnostic fact is the presence of occult blood in the stool. What a tell-tale sign this is when the proper precautious have been take to insure its accuracy. I cannot help having my honest doubts about the value of the string test, and in a subsequent report reasons therefor will be assigned.

The fourth and fifth diagnostic aids should be discussed in their reverse order, for obvious reasons, since the treatment

naturally follows diagnosis. Upon the reasonably certain establishment of an ulcer's presence regimen for its cure is instituted. Its details do not interest me at the moment, and I leave this in the hands where it properly belongs—viz, pediatrics. The ingenious nature and rational application of these, however, deserves pause for comment and congratulations. Their own reports will no doubt shortly appear. The fact is that these ulcer bearing children do remarkably well upon such handling. The prompt response to ulcer management is very convincing from a diagnostic viewpoint.

The roentgen-ray evidence forms so major—I might almost say, so indispensible—a factor in diagnosis as to balance the combined weight of all others. I invite your consideration to its discussion.

CASE REPORTS.

My first personal experience was such to startle me into wakefulness, and to put me permanently on my guard. A boy, eleven years of age, having been referred to me by Dr. C. J. Miller, was found to have an obstructive duodenal ulcer. Surely here was food for thought. The patient was then admitted to the hospital, and I append a few of the high-lights from the history which was subsequently secured by an interne upon the patient's admission to the hospital.

E. J., aged 11, was admitted to the hospital June 7, 1929. Two days before this a roentgen-ray examination reported an obstructive lesion upon the base of the duodenal bulb with almost complete obstruction. The tentative diagnosis upon admission was pyloric obstruction due to ulcer. The patient's present complaint was pain in the region of the epigastrium. For the past year the patient had been complaining of pain, and tenderness in the region noted, but neither nausea nor vomiting had been observed. During this time there had been no history of constipation. About one year ago the patient noted some blood in the stools; the mother thinks this was very dark, but does not recall any vomiting of blood. There was no memory os to whether or not a diarrhea or dysentery was associated with the blood in the stool. The patient had always been rather delicate, and fine featured. He had lately been upon a diet, being allowed cooked food only, raw foods having been interdicted.

He had always been the average well, healthy child (?), although he has complained of "stomach-ache" for quite some time. In September one year ago he had an appendectomy for the pain which is still present, without experiencing relief. He had then been complaining of pain in the epigastrium for approximately one year. Typhoid fever, a tonsillectomy, and chicken-pox had been the only illnesses noted in the past history. While this fact does not appear in the history I should like to add parenthetically that I have personally talked to the child's parents. I secured the history of nocturnal stomach-ache, of frequent periods of eating between meals, and of a very capricious appetite, and periods of weight loss at those times when the stomach had become intractable. However, let us continue with the written history. Since the roentgen-ray findings were so complete and convincing, the abdomen was opened under general anesthesia on June 8, 1929, by Dr. C. J. Miller, under the tentative diagnosis "adhensions about the cecum following an appendix operation." Dr. Miller remarks in his notes, there is a roentgen-ray report of an unusually large stomach for a child, with apparently an obstructive lesion at the pylorus with the entire barium meal delayed as long as 6 hours in the stomach. "Operation, laparotomy." There were found and released a few adhesions between the cecum and the abdominal wall, some adhesions were released about the terminal eight inches of the ileum. Many enlarged glands, some of them as large as a bean were present in the mesentery of the ileum. One was removed for microscopic study. Investigation of the stomach shows an obstruction of the pylorus at the pyloric ring in the base of the duodenal bulb, and considerable spasticity, showing very definitely that the child had a pyloric ulcer with obstruction of the pylorus. A posterior no loop gastro-enterostomy was performed. The rest of the abdominal contents were normal. The final diagnosis, "Adhesions about the cecum and ileum, and partial obstruction from an ulcer." The enlarged glands of the mesentery have a significance since such enlarged glands might mean tuberculosis. A report from the department of pathology, dated, June 8, 1929 states, "Low-grade inflammatory reaction associated with hyperplasia of the glands. No histological evidence of tuberculosis of the lymph nodes submitted." The patient was dismissed from the hospital June 19, 1929 with the final diagnosis of duodenal ulcer. Since this time an effort has been made to keep in touch with the patient; the family reports splendid progress, the child has gained in weight, and his general health is excellent. There is no return of the ulcer symptoms. Slides of this case will be shown subsequently. Other similar cases might well be presented except for the lack of time. I have to

date 12 cases which seem to be proved beyond cavil.

To my associates, Dr. J. C. Rodick, and Dr. E. B. Van Ness, I owe, and herewith extend my thanks for the interest which they immediately took in pursuing this lead further. Our immediate handicap lay in not being certain whether the same diagnostic criteria obtained in infants, in children, and in adults. This naturally had to be determined, and it was through the assistance of Dr. L. R. DeBuys, chief of the pediatric service at Touro Infirmary, that we were furnished with a sufficient number of children of each age group to form the basis for a large number of observations on the normal until we had satisfied ourselves as to the limits within which the normal lay.

Following this group study, my section began to receive from the section of pediatrics, children of all ages who were suspected of being ulcer subjects. Simultaneously Dr. DeBuys instituted accurate studies of the stool examination for occult blood, and the histories of many cases were reviewed with the possibility of ulcer in mind. A surprisingly accurate coincidence between positive roentgen signs, and occult blood stool examinations resulted.

For the purpose of this report let us proceed at once to say that while there are a few minor differences between the diagnostic criteria on the fluorescent screen between children and adults, these will soon be noted by competent roentgenologists and not be a source of very great bother. In the main, the great body of roentgen signs for adult ulcer are present in the child; these are too well known to deserve a review here. The most notable difference to me is the evidence regarding the fleck. Since the child is young, it is to be assumed that the ulcer also is. It, therefore, rarely is so indurated as in an older subject. Probably less repair has occurred in the patient. At any rate the fleck almost always can be demonstrated, not only at the immediate flouroscopic examination, upon using the manipulating hand, but it exists at and long beyond the six hour examination, even when the remainder of the upper gastro-intestinal tract has cleared itself completely from barium. I shall call specific attention to this during the exhibition of the slides. I cannot insist too strongly that the fleck be demonstrated. In our present state of knowledge, I refuse to accept roentgen-ray evidence of ulcers unless I see it. It is my intention to express this again while showing the slides. Not one of our patients who presented an unquestioned fleck failed to show occult blood. This I consider of utmost importance.

From private as well as institutional sources, patients have appeared who have proved of extreme interest, thus convincing me that social status has little to do with the etiology. A bleeding gastric ulcer on the lesser curvature, with positive roentgen-ray signs, melena, hematemesis, and recovery on diet, was seen in a child three years of age. It is to be hoped that to my own report will be added those of the pediatricians from whom I have seen this interesting group.

It is quite obvious that I shall not have the opportunity to report so large a percentage of operations in children as I would if the ulcers existed in adults. Children respond so excellently to treatment that one naturally hesitates to do surgical procedure on the very youthful. Therefore, not all cases can be proved from the surgical standpoint. If, however, we are to accept as proof every thing short of surgery and base our opinion upon clinical manifestations there will be noted these significant facts: Marked epigastric pain, digestive disturbances, frequent eating, nocturnal "stomach-ache," capricious appetite, occult blood in the stool, positive roentgen-ray signs of duodenal ulcer, and recovery upon a rigid ulcer regimen. These together compose a very formidable group of findings and, carefully instituted, this will no doubt lead to a correct diagnosis which would otherwise be overlooked. I close this short

report with a plea for further exhaustive and very sane study of this subject.

DISCUSSIONS.

Dr. G. L. Arrington (Meridian) I want to compliment Dr. Henderson on his most excellent paper, because the patient he referred to happened to be my patient. I saw this child last week and he is absolutely free of all symptoms, eats regularly, goes to school and is not abnormal in any way. About two months ago he had a little upset, ate a raw sweet potato, but I think that would upset most any one. He is still a little under weight, because he takes a lot of exercise, plays with other boys and does everything that a normal child could do. I have him to report back regularly to me. He may develop ulcer later on, but I do not think so.

This is a very interesting subject because we find a lot of children who like taking soda, because they find it gives them relief. We have found on several occasions that by taking these children and dieting them and keeping them off of meat for several days, usually these cases have occult blood in stools, they improve. These cases should have thorough study of the gastro-intestinal tract as Dr. Henderson is doing. Also we find that soda will relieve these cases of repeated vomiting and pain in the epigastrium. Every now and then we get a case where the child takes soda over a long period of time, and that gives an alkalosis. I am going to bring that up in my paper in the morning, so I am not going into it now. This is a very interesting paper and I hope that Dr. Henderson will continue his studies.

Dr. Geo. M. Street (Vicksburg) I want to thank Dr. Henderson for presenting to us this very new and original work. It had never occurred to me before to look for duodenal ulcer in children. I may have had some cases and overlooked them, but I have never positively diagnosed duodenal ulcer or gastric ulcer in a child. In the future I will be on the lookout for them and may be will have some of the cases. It certainly was a most illuminating and instructive paper to me, and I feel that we all owe Dr. Henderson a vote of thanks for coming up here and presenting to us such an admirable paper.

Dr. R. C. Finlay (Greenville) I want to rise and say ditto to Dr. Street in thanking Dr. Henderson for this beautiful presentation, and want to especially thank him for the "fleck." I won't forget it. Pediatric literature will lead us to believe that we are missing a whole lot of ulcers in children, and if the pediatrists will give us a chance we may be able to find more.

I had an experience with what I though was duodenal ulcer in a child. The child had vomited and passed blood, and I found a very definite defect. The parents got tired of medical treatment and the child was taken to Memphis, and there the appendix was removed and a naked eye diagnosis of tubercular peritonitis was made. The naked eye diagnosis was probably error, because the child's subsequent history did not bear it out.

Dr. C. C. Hightower (Hattiesburg) I want to reiterate what Dr. Street said and to thank Dr. Henderson for coming up to present this paper to us. I would like to know if a gastric analysis was made of the child and what the showing was?

Dr. W. F. Henderson (closing) I do not know whether I have the card or not. There was a gastric analysis made on all of these children. In many of them they had a diagnosis that it was ulcer before they came to me. Now, it is not at all an uncommon thing that we have a diagnosis of duodenal ulcer already established. I am glad to mention that because it brings up another thing. For the Lord's sake, please don't send these babies to a stomach man and let him put a tube down in their little stomachs, or stick a needle in them, before you send them to the roentgen-ray . If you are going to have them roentgen-rayed, have that done first. After that you can put a rubber tube down them and stick them, or whatever else you want to.

I want to thank Dr. Arrington for his discussion of the paper. I mentioned seeing Dr. Arrington downstairs, but did not know he was in the room. I left out the most interesting part of my paper, that is the review of the literature; however, you can read that in the published report. But this is the thing that struck me as being most extraordinary—the pathologists all over the country are reporting duodenal ulcer in children, and in many instances that is the sole diagnosis and is usually made after the child is dead, and if they can find that out after the child is dead, there is no reason why we can not fint it while they are living. There is one man alone who found one hundred cases, some of which had ruptured and caused peritonitis, dating back to the time the child was two months old. Another man reported one hundred—always from the pathologists, never from the radiologists, never from the pediatrists. It is always from the pathologists—duodenal ulcer is given as the cause of death. Why can't we find it before they die? I would like to thank Dr. Hightower and the Section as a whole for giving me the opportunity of coming up here and talking to you, first, as it is near to my heart, and second—I am almost a Mississippian. I started here and I feel like I have gotten back home. I thank you.

AN INTERESTING STUDY IN ROENTGEN-RAY FROM MEMORY'S STOREHOUSE.*

H. G. McCORMICK, M. D.,

LAUREL, MISS.

I say "from memory's storehouse," because the clinical data here given are from memory rather than from my clinical records.

When Ex-President Wilson was asked how long it took to prepare his speeches, he is said to have remarked, if he had to encompass much in few words it required careful study and long preparation. In order to present my subject as concisely as possible without omission of essential detail, I am going to ask your indulgence while I read my paper, rather than give it offhand.

When the chairman of your program committee, Dr. Hightower complimented me by asking me to contribute to this program, he suggested I present a lot of pictures from the large collection I have accumulated in sixteen years of radiographic work.

If I were speaking to an art gallery, or a gathering of technicians, such an exhibition might be applicable, but would hardly be interesting to a body of clinicians, no matter how artistically or technically perfect.

Therefore, I am going to present a few cases in the limited time at my disposal—cases which to me were of unusual interest from a clinical point of view, rather than from their worth as an artistic or technical product. These cases were culled from some 30,000 radiograms.

I propose to present for study the following cases: Metastatic Malignancy to Bones of Skull and Basal Region of Brain, Following Breast Amputation for Carcinoma; A Congenital Anomaly of Intra-Thoracic Vascular Viscera, Mistaken for Enlarged Thyroid, Together with Congenital Malformation of Skull and Pronounced Backward Mental Development; A Case of Multiple Enchondromata; Laryngitis, with Streptococci Laryngeal Stenosis; Post-Diphtheretic Stenosis; A Case Symptomatically suggestive of Laryngeal Stenosis, But Which Proved To Be Due To Enlarged Intra-Thoracic Lymph Nodes; Massive Collapse of Lung; Pyopneumo-Thorax (encapsulated) With Complete Collapse of Lung; Osteomyelitis (pyogenic or tubercular?) of Pelvis and Left Hip.

Malignant metastases to bones of the skull and basal region following breast amputation for carcinoma, presents some unusual points in my experience. We are aware of metastases to vertebrae, pelvis, ribs, and long bones, but I have never seen metastases to bones of skull directly from breast carcinoma, and from my talk with prominent surgeons and doctors, it seemingly is a rare sequella of breast carcinoma.

This lady was 56 years of age, weight about 200 lbs. There is nothing unusual in her history up to the time of operation. At the time I saw her the growth had reached the size of a phendoscope, centrally located, well circumscribed and encapsulated.

When first noticed by patient, about a year and a half previous, it was about the size of the distal phalanx of finger, or smaller, but she kept the knowledge to herself, and it was with reluctance, engendered from prejudice against operations, she even then consented to operation.

There were no palpable glands in axilla or neck, and roentgen-rays of chest did not show any definite evidence of malignancy in thorax, although there was very considerable hyperplasia of lymph glands and structures at root of right lung and mediastinum, but without any invasion of lung fields.

A radical breast operation was performed by Dr. Matas. As soon as wound was well

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healed (about 7 or 8 weeks) I administered prophylactic roentgen-ray treatments to entire chest and neck, repeated at intervals of six weeks up to within two months of death.

She had always suffered headaches more or less, but immediately after the operation, and practically continuous up to the time of death, she suffered pains (quite severe at times) in the head, which she said were different from those she had been accustomed to.

About three weeks after operation she developed a partial ptosis in one upper eye lid and contraction of the pupil with decreased vision, which later improved considerable but never entirely disappeared. Oculist reported normal fundus and no refractive errors or other eye abnormalities other than above stated.

About six or eight weeks after operation a lump appeared just within the border of the scalp in the parieto-frontal region, a little later one behind the ear, then another at another point. These lumps slowly increased to five, then seven, then nine, and gradually enlarged until some of them coalesced.

They were hard, rather firm, and flat, not particularly tender, no palpable glands in neck or axilla; the operative field remained free from evidence of recurrence in situ, the skin over growths were normal.

Some three or four months prior to death she developed neuritic, rheumatic, arthritic, and muscular pains, at times quite severe, still later nausea and vomiting, with ever increasing head pains. Some two or three weeks before death, I carried my bedside roentgen-ray unit to her home, and with considerable difficulty, owing to her condition, succeeded in getting some fairly satisfactory radiograms of her head.

Up to this time she had no symptoms, other than the eye symptoms previously enumerated, to indicate involvement of brain or central nervous system. Shortly thereafter she complained of auricular disturbance (roaring in ears, some difficulty in hearing), visionary disturbance (letters looked to be upside down, and a tumbler sitting on table appeared to be lying on its side), difficulty in articulation (voice sounded thick like one under influence of morphine), finally dwindled to a whisper, and gradually faded out altogether.

A few days before the end she suffered unusually severe nausea, vomiting, and retching for three days, with terrific head pains, all of which suddenly terminated one night, and she rapidly drifted into a state of mental apathy resembling encephalitis lethargica, and finally coma and death.

Now what I think took place is this: Her growth was well circumscribed and encapsulated and was removed wide of the apparent tumor mass; but I believe in extirpating, or attempting to extirpate the axillary and subclavian glands and lymphatics, a malignant infarct was carried directly by the blood stream to the basal region, and accounted for the ptosis and contracted pupil. The roentgen-rays show practically complete destruction of anterior clinoid process of sella turcica. From this secondary implantation, metastasis took place to bones of calvarium. Roentgen-ray shows 19 areas of bone involvement, some of which were very thin. From here the process extended rapidly to the cortex of brain and meninges producing an encephalitis.

The basal and bone involvement are well shown in accompanying roentgen-ray.

The second case, congenial anomaly of intra-thoracic viscera and head, with backward mental development, is a white baby, age three months, bottle fed under the direction of a New York pediatrician. She was considered to be perfectly healthy, but coming down on the train she got a sharp gastro-intestinal upset from inability to follow strictly her dietary regime, and along with it developed a mild respiratory

infection, with a head cold, and a few interscapular rales in the chest. As soon as she reached Laurel, she was put under the care of a New Orleans pediatrician, but as she grew progressively worse, the nurse insisted they call a local doctor, as she did not care to assume such a great responsibility unaided by near medical advice. I was called and found conditions as I have narrated.

She had a rather croupy and metallic cough; more or less noisy breathing. The New Orleans specialist was advised and came to Laurel. We went over the case together and because of the rales aforementioned had her brought to my office for roentgen-ray of chest, with a, to us, surprising result—what appeared to be an enlarged thymus. The pediatrician, who of course had seen many of these cases, thought it a thymus. I commented on the fact that it did not have the characteristic keystone shape, but from my limited experience in this direction was not willing to put my judgment up against his.

A few days later I took the films to New Orleans and presented them, together with a history of the case, to three radiologists, an internal medicine man, and the aforesaid specialist. They were all of the opinion it was a thymus, and recommended roentgen-ray treatments, of which I gave three, then as mother had to return home, I took another radiogram and no change was shown, which all but convinced me, my hunch as to its not being a thymus was correct.

However, I sent the radiograms, the history, and our agreed diagnosis, together with the treatments given, to her home doctor in New York, and advised a fourth treatment, which was given by Gregory Cole. Shortly after, they made more radiograms with no apparent change. After numerous consultations it was decided, so I was told, it was the normal shadow of a baby of that age—I most emphatically disputed the normality of the shadow.

Well, things rocked along for a year. When they came back to Laurel for their annual visit, I was instructed to make a most careful clinical, laboratory, and roentgen-ray examination, which was done. Several radiograms of chest were taken in prone and erect position at 36 inches and 84 inches, from front and back. The prone position showed substantially no change from the year previous, but the erect picture at seven feet definitely eliminated thymus, and this with flouroscopy placed it in the category of enlargement of the right heart (probably congenital). There never was any heart murmur.

One could see at a glance there was something abnormal about the head. The cheeks were full and rounded, the face and ears small, the superior maxilla was short, the forehead prominent and bulging, the nose small and saddle shaped, giving the face a dished appearance. The occiput went straight up behind, a turricephalic type except for the prominent forehead. There was an exaggerated fullness of the left occipital. The mental development (she was not 14 months old) was that of a baby of two or three months.

I made several exposures of the head, which showed a very obtuse basal (sphenoidalangle (platybasic skull) from premature prenatal ossification of the basal sutures, thin frontal, and thickened occipital bones, with no evidence of ossification of interfrontal suture.

These points are well shown in roentgen-ray.

The baby was now 14 months old, could not sit up unsupported, had not cried or laughed out loud, made any attempt to talk, walk, crawl, roll, kick, reach for things, notice bright objects, localize sound, or do things that a normal baby of that age would do. It was not deaf, blind, or paralyzed. It was well nourished, fat, of symmetrical and good muscular development, but lacked muscle tone, co-ordination, and the "will to do."

The shape of the skull, especially its variations at the base, naturally have much to

do with the configuration of the brain and of the facial characteristics. It is not inconceivable that the developmental anomaly at the base of the skull might produce some disturbance of the intercranial ventricles and irritation of the basal ganglia and structures, and possibly lead to retarded mentality, or even cerebellar-pontine disorders.

These changes at the base and shape of the skull may be brought about by numerous causes, viz, some disease or disorder producing changes in bony growth, a basal-craniostenosis (whereby the basal sutures become prematurely ossified in early prenatal life); or some interuterine pressure from scant amniotic fluid, from resting too long on the pelvic brim of the mother, from malformations in maternal pelvis, or from other causes.

The third case is one of unusual interest and rare occurrence. I had never seen one before or since. Dr. Granger of New Orleans, to whom I submitted it at the time, said he had seen but one somewhat similar, though differing in some particulars. The other radiologists in New Orleans—I submitted it to several—had never seen anything like it, nor had the surgeons or specialists.

The child (a girl) was 8 years old, bright in school, never had any serious sickness or injury, in fact was considered the healthiest of seven children. The parents' attention was first called to her at the age of four years, when they noticed a clumsiness in writing. It was possibly some two years later before they noticed an undue prominence over the lower end of ulna. She gave no history of pain at any time, used the extremity freely, but with somewhat diminished power, and some limitation of motion in certain directions, due to bony changes.

I found on inspection this arm was then four inches shorter than the other, the hand much smaller, some swelling about the finger joints, wrist joint, and marked swelling about the shoulder. I made radiograms of the entire osseous system, and found all the bones except this extremity normal. After an extensive clinical and laboratory examination, and a study of the roentgenograms, it was finally diagnosed as multiple enchondromata.

You will notice that all the disturbance centers about the epiphyseal ends and does not cross the epiphyseal line. There is no new bone formation, no bone expansion, or bone invasion, but apparently some cortical destruction.

There was nothing in the history or clinicall examination to throw light on the aetiological factors, except possibly dietary errors—there was insufficiency of milk, eggs, meat, and fruits—and probably vitamine deficiency. She also had hook worms. These things and other deficiencies may have upset the edocrine balance, or been contributary factors, but I believe it was a prenatal condition. There was no history of lues, or tuberculosis. Her Wassermann test was negative.

The fourth case is a negro baby, aged one year and nine months, who some two or three weeks following measles, developed a pronounced croupy cough and stridulous breathing which I cannot better describe than by saying my first thought was diphtheritic croup (membranous laryngitis). The condition had then existed about two weeks.

Examination of the throat showed moderately enlarged but distinctly pathologic tonsils, and adenoids. Tonsils were not acutely inflamed, there were no deposits; nor was there any nasal discharge, and practically no fever. A week later, there being no improvement, I had her brought to my office for roentgen-ray examination.

Roentgen-rays of chest taken prone at 36 inches, and erect at seven feet, show no thymic enlargement, and but moderate hyperplasia of lymph nodes at root of right lung. Lateral roentgen-rays of neck in erect position at 80 inches, at both inspiratory, and expiratory phases, after the

technic recommended by Percy Hayes, Pancoast, and Pendergrass, bring out fairly well the important anatomical structures,—naso-pharynx, pharynx, uvula, base of tongue, epiglotis, laryngeal vestibule, laryngeal vesicles (vocal chord ring), and trachea.

As will be noted there is a distinct difference shown in the two phases of respiration, the passage being wider and more clearly delineated in the inspiratory phase because of being filled with inspired air. It will also be noted there is a perceptible but uniform narrowing of the upper trachea just below the laryngeal vestibule, and laryngeal vesicles (vocal chord ring) at both phases of respiration. I think, by close observation, I can also see a slight roughening of trachea at this point. There is no indication of post-laryngeal, or post tracheal abscess, or growth, as evidenced by the fact of there being no widening of the space between the posterior pharyngeal and laryngeal wall and the cervical vertebra, using the anterior-posterior diameter of the 5th cervical vertebra as a key. The case was cured by roentgen-ray therapy.

The fifth case is post-diphtheritic laryngeal stenosis. We did an emergency tracheotomy on this white three and a half year old baby on Oct. 18, 1929, and have never been able to remove the tube and leave it out, although we have made several attempts. The last attempt was in March. Some 12 hours after removing tube, we had to rush him to the office at 3 a. m. and had considerable difficulty in re-introducing the tube, as the cicatricial band about the tracheotomy opening had contracted in these few hours to such an extent, and was so firm, we could not stretch it sufficiently to introduce the tube, and as the child was threatened with immediate suffocation,—in fact did become extremely cyanosed, then pale, then stopped breathing altogether—we hastily cut the constricting band in order to replace the tube.

I noticed with each inspiratory effort the scar tissue would retract due to the lack of the rigid support that had been furnished by the silver tube. At this point there is a lack of tracheal rings behind, and the rings being cut in front there was an absence of sufficient support to hold trachea open, especially during violent or enforced respiratory efforts.

It was in the hope of throwing some light on the subject, I took radiograms of this case, by same technic as the previous case. The point of stenosis is seen just above the entrance of tracheotomy tube, below the larygeal vestibule, and vesicles.

The sixth case, a negro baby aged three years, resembled symptomatically, laryngeal stenosis,—dyspnea, stridor and choking spells of several weeks' duration. There was a generalized macular eruption confined to body. As in the other cases, the first thought was laryngeal diphtheria. Roentgen-rays of larynx were negative as to stenosis, or post-laryngeal, or post-tracheal growth, or abscess. Roentgen-rays of chest show enlargement of right paratracheal lymph nodes, and right and left bronchial lymph nodes, possibly luetic. Radiologically this must be differentiated from ; 1, tubercular enlargement of lymph nodes; 2, Hodgkins disease; 3, leukaemia; 4, Unilateral substernal (intra-thoracic) goitre; 5, Neoplastic growth; 6, chronic abscess. The combined clinical, roentgen-ray, and laboratory findings should establish a definite differentiation. Roentgen-rays made two weeks later show paratracheal lymph nodes greatly reduced in size, almost gone in fact. Symptomatically she is well except for an occasional croupy cough. She had no medication whatever; but, as near as I can estimate had from two to two and a half milliamperes' exposure to head and neck while making roentgen-ray examination, and the improvement might be attributed to this.

The next case, massive collapse of lung, occurred while he was driving his child to school in his automobile. He was taken with a sudden severe pain in the chest, shortness of breath, grunting, respiration,

and slightly bluish lips. There was never any cough or fever at any time.

The next case, a child of 5 years, pyo-pneumo-thorax, with encapsulated effusion and a completely collapsed lung, followed a "flu" infection, some 10 weeks before, so it was reported. After two or three weeks in bed, the fever gradually subsided, and remained practically normal for several days, then suddenly jumped up to around 104 degrees. Roentgen-rays then showed the encapsulated effusion had ruptured through into the general pleural cavity. The case was drained and is now pursuing a satisfactory course. As will be noticed, the last roentgen-rays show lung partially expanded, but bound by firm adhesions, preventing full expansion.

The last case, a girl 21 years of age, single, was taken sick about latter part of October, 1928. At the time of first roentgen-rays, Nov. 8, 1928, she was acutely ill; considerable fever, great pain in left hip, total leukocyte count 35,800, with 85 per cent polynuclear cells.

Roentgen-rays at that time showed beginning erosion at symphysis pubis, hip joint practically normal, except possibly decreased density and slight erosion of cartilage about the left acetabulum.

Dec. 12, 1928 operated on, abscess evacuated, and there was found complete separation of lamus of left ischium and ilium, which was removed.

She remained acutely ill, in fact, so I was informed, developed an abscess and bone lesion in one scapula, subsequent to this operation. May 20, 1929 (5 months after operation), roentgen-rays again taken, showing extensive bone destruction, confined largely to left pubis, ischium, and ilium, and slightly to right pubis and ischium. There was no evidece of bone regeneration, or new bone formation. There was decided erosion shown in rim of left acetabulum.

She was running a temperature of 101 to 102 degrees. There was no cough at time of my examination, but I was informed she had had several attacks of so-called pneumonia in years past.

In January, 1930 she went to Campbell Clinic in Memphis, where she was again drained.

During all this time from Oct., 1928, to Jan., 1930, she was acutely ill, with periods of exacerbation and remission, discharging from time to time, pieces of bone,—some through drainage site, and some per vagina, and this continues up to present time. An abscess was opened and drained about a week ago (May 2, 1930).

Roentgen-rays made May 9, 1930 (a few days ago), show considerable evidence of attempted bone regeneration and new bone formation, about pubis, ischium, and ilium, with considerable destruction of acetabular rim, and partial dislocation (luxation) of head of femur upwards and backwards so that it is resting on the upper and back rim of acetabulum, with corresponding shortening of the leg.

Her temperature and pulse rate at this time is normal, and she has gained some 10 pounds in weight, and is physically much improved, although somewhat anaemic and undernourished.

The point is, is this a osteo-myelitis of pyogenic origin, or an osteo-myelitis of tubercular, or mixed origin.

The age, history, duration of disease, manner of origin,—first in cartilage of pubis and later in cartilaginous rim of acetabulum seem to point strongly to tubercular origin, which became later infected with pyogenic germs, as evidenced by the high leukocyte count early in the disease.

DISCUSSIONS.

Dr. R. W. Hall (Jackson) I feel that one would be quite at a loss to attempt to add to, or take from, a prepared discussion presented by Dr. McCormick, since he has been doing most efficient practice of this character longer, possibly, than any physician in Mississippi.

I think also that every one connected in any way with radiology is to be congratulated when

we see with what thoroughness the modern physician may pursue his study of these obscure cases through the aid of a well ordered and regulated roentgen-ray laboratory. Also that our former Radiological Association has reached the dignitiy of a Section in the State Association, and will no doubt soon, if not now, be regarded as one of its most valued assets.

As you all know I am no longer doing general practice, or radiology, but dermatology only. Consequently there is little in the doctor's most excellent paper that falls within the scope of my daily observations exclusively. Still there is a feature connected with the first case presented that has concerned me very much, and I refer to metastasis. The doctor did not tell us if his case had glandular extension before treatment or after, which, however, is not material just here. No one will deny but that metastatic complications are unfortunately by far too frequent. I am exceedingly jealous of the outcome of roentgen-ray therapeutics. When roentgenotherapy is put to the test and fails then we all suffer immeasurably, and whether there is grandular extension at the time of treatment or not, this is seldom brought in the calculation. In looking into some of the causes for metastasis it would seem that in some instances at least that the technique of administration might be at fault. The dermatologist may not by his system of administering superficial dosage quite reach the remote angles of his malignancy due to insufficient penetration. On the other hand the deep roentgen-ray operator may not be so refined in his surface technique as to properly irradiate the entire area of possible surface malignancy, each being somewhat inclined to his system of dosage. So that there could be something of a "No Man's Land," so to speak, that might justify a little tightening up a bit if we would reduce the most hazardous feature of surface neoplasm. This also brings up the other possibility, that of combining both superficial and deep methods if advisable since the objective is to exterminate the growth, and we would add that this should be done by the administration of one well calculated massive dose.

Since biopsies with me have been quite disappointing in an attempt to better classify the type of tumor, the safer plan seems to be to administer such a dose as will apply to the most malignant form of them all. I regret that the time has been called as I should like to mention some of the conditions at least in which radium is so much more dependable than other types of radiation for thoroughness and also when all of them should be considered, even in the same case.

Dr. J. Rice Williams (Houston) I will run over this briefly. This is a very important paper, very instructive and informative and some very interesting radiograms presented. This question of metastasis comes in, of course, but we are sometimes in doubt as to whether it is a metastasis or a primary focus. I can easily see how a person who had a carcinoma in one place, even though that might have been removed in toto, might have another one somewhere else in which case that would be a primary focus; that, however, has no bearing on the early cases as to treatment.

I have a case now under observation that had a hip amputation for carcinoma. There is a great big hard lump on the occipital portion of the head. He has no special pain, but it is clearly carcinoma.

I had another case following a breast amputation that had a large notch out of the femur just below the great trochanter, which was shown by radiogram. It might be of interest to relate that this notch filled up under deep roentgen-ray treatment. This was verified by radiograms.

Metastasis to the lungs following a breast amputation is very common. I had a case the other day who showed under the radiogram that she had only about one and a half by two inches of breathing space on one side. The other lung appeared to be normal.

The doctor speaks of nausea. I have never seen a case in the last stages regardless of where the lesion may be without having extreme nausea. All I have ever come in contact with have that. I am a very strong advocate of blocking off these tumors or whatever it is you are going to do under deep therapy before the operation. I believe that will save, not all of them of course, but a great many cases of metastasis by putting those cells to sleep, so to speak, arresting their activity and thereby there is less probability, I think of spreading, or getting through the lymph channels to the other tissue. Of course after a gland has become involved—the gland nearest to the lesion has become involved, and particularly if it has broken down more or less, or has allowed the floating through of the lymph, there is no use to do anything; everything you do is valueless then. We frequently have collapse, not frequently either, but we do have it of course, sometimes have it as a result of anesthesia. We had one not long since and fortunately for the patient we attended a meeting one day where somebody reported a case of that kind and he told about how to relieve it, and that was the most important thing of all. You may have heard it, and that is where you have a sudden collapse as result of anesthesia. We took him to the roentgen-ray room, made a radiogram which

showed a complete sure enough collapse. The other lung seemed to be functioning all right. We worked with him a little bit, turned him up on the other side, and in about a couple of hours I suppose we had a nice expansion of the lung. I certainly agree with Dr. Hall that this is a very important section of our Association, and we started out fine by having such a splendid paper. Dr. Hall is eminently correct about the deep and shallow roentgen-ray part of the skin, and the deep therapy and I agree with him very heartily, so heartily in fact that I took up both sides and tried to learn them both right straight through, together with the use of radium.

Dr. E. D. Kemp (Sanatorium) I understood the doctor to say that that was a massive collapse of the lung he presented, and I just wanted to know if he made that picture as a massive collapse. I call it a semi-collapse. I think in this case we had a spontaneous pneumo-thorax; there is a difference between that and a massive collapse. In a massive collapse you have a blocking of your bronchial tree above your collapse, and you have a dense area all through the lung below that; you might have a clear apex with a collapse of your lung below obstruction. But in a spontaneous collapse you have a flooding over all your lung, and then after a time you have a healing of your focus, and then you have an expansion of your lung taking up the amount of collapse you had.

Now the picture presented showing the condition of the hip and the bone of the pelvis, I think is possibly tuberculosis. It has every indication of being such, and it does not have the appearance of a chronic osteomyelitis. In tubercular conditions we have more or less deformity and severe pain, and quite often we have high temperature in those cases, and the fact that you have normal deposits around the head of this bone leads me to believe that you have a tubercular condition of the hip joint and possibly you might have had a decompression, but I think the lesion in this case is tuberculosis of the hip bone.

Dr. H. G. McCormick (closing): I have already run over my time. It was not the intention of this paper to take up the matter of roentgen-ray therapy as far as that metastasis of the skull is concerned. I do not think it would have made any difference what kind of therapy you used—that had been going on for a year and a half, and it was one of the most dangerous types of carcinoma, and what I think took place is just as I explained. I think there was a malignant infarct carried to the base of the brain. There was no involvement found in lymphatics that could be detected, at the time we first saw her, either in the axilla or the neck, and my understanding is that the pathologist at the Touro—I saw the report—in fact said the glands that were taken out did not show malignancy. Dr. Matas said he didn't care what the pathologic report said, he would depend on his eye. It occurred to me that in taking out those glands—isn't that a danger that we are running all the time? You can't get out all of those lymphatic glands that surround the important nerve structures in axilla, and I think you are runing a great risk of an infarct being carried into general circulation. Of course, as to preliminary roentgen-ray treatment, I have not got much benefit in roentgen-ray treatment if it is deep malignancy. I do not care where it is. Several members of my family have died with cancer, but I think the only time to cure a cancer is before you know it is a cancer.

The doctor spoke about that massive collapse—I probably misused the word. I was not very choice in my selection of a word. It really was not a massive collapse, because it was not a complete collapse. I meant to say it was a partial collapse; it just happened suddenly while he was driving the child to school. I don't know what it came from. I believe that is all.

THE TREATMENT OF HYPERCHLORHYDRIA.*

OSCAR W. BETHEA, M. D.,

NEW ORLEANS.

Since modern methods and facilities have eliminated from the study of the stomach contents so much of the danger, discomfort and inconvenience that formerly attended this work more cases are being correctly diagnosed, the results of the various treatments followed with greater accuracy and much valuable data accumulated. Especially has there been increased interest in the importance of hyperacidity, whether primary or secondary, as a direct cause of gastric discomfort and of such other conditions as headache and a disturbance of nutritional balance.

For many years I have been confronted with the necessity of treating patients with hyperchlorhydria who could not give the co-operation necessary to carry out an elaborate plan of treatment.

*Read before the Louisiana State Medical Society, Shreveport, April 29-May 1, 1930.

1. Those in the Charity Hospital where the shortage in nurses rendered intensive individtual attention impracticable.

2. Those in private practice where the necessity for continued productive activity precluded the possibility of any routine that interfered too much with their work.

We gradually evolved the plan of treatment that I am now presenting and it has answered our requirements well.

As hyperchlorhydria is so often the result of some primary cause each patient is given the benefit of a painstaking investigation which should include a carefully made history, a general physical examination, and a laboratory and roentgen-ray study.

Appendiceal and gall-bladder disease must be excluded or if found given the attention indicated. The possibility of the presence of gastric or duodenal ulcer must always be considered. Diseased teeth must be removed, proper chewing facilities provided and oral hygiene instituted. Infection in the tonsils or sinuses must be eliminated. Viseroptosis may be benefited by an abdominal supporter. Faulty habits, as alcoholism, excessive smoking or improper eating must be corrected. Functional nervous disorders must be relieved or controlled as far as it is possible.

In treating hospital cases we use multigraphed forms, one of which is attached to the records of each patient. In private practice all instructions are written in detail. The effort is not made to hold arbitrarily all patients to one set of rules as some individualization is usually necessary. Note that the ward sheets are headed "suggestions" and not "orders."

WARD SUGGESTIONS FOR THE TREATMENT OF HYPERCHLORHYDRIA.

FIRST PERIOD (3 to 5 DAYS)

A glass of cold milk (or milk and cream) every two hours when awake. Water as wanted.

A tablespoonful of olive oil (plain) every night at bedtime.

A cup of hot water every morning.

Morning, noon and night a dose of the powder.

Nothing else to eat or drink.

Should the treatment prove to be too laxative, reduce the amount of the powder or olive oil, or both. Boil the milk if necessary.

SECOND PERIOD (2 to 4 WEEKS)

Eat three meals a day.

Two hours after meals take the powder in water, followed by a glass of milk.

Continue the olive oil at night and the hot water in the mornings.

Select the three meals from the following articles:

Water, milk, cream, egg-malted milk, strained milk soup, gelatin, jello, custard, soft-boiled eggs, toast, butter, grits, mush, cream of wheat, mashed potatoes. (Butter and cream to be used freely. From 3 to 5 pints of milk to be taken daily.)

Very little salt or sugar and no spices.

LATER TREATMENT

The powder may be reduced to one-half or one-fourth of the original amount.

The hot water and olive oil should be continued.

Simple articles of food may be added from time to time until the patient reaches that point where instead of being given a list of foods he may eat, he is given a list of what he must not eat, and is allowed all others.

The articles that usually should be omitted are:

Highly seasoned foods (Mexican chile, hot dogs, courtboullion, stuffed peppers, sea-food cocktails, etc.).

Acids (as pickles, vinegar dressings, lemons, etc.).

All fried or greasy foods (as fried oysters, fried fish, fried eggs, etc.).

Sweets (as sugar, cake, candy, jelly, preserves, syrups, etc.).

Foods that contain roughage (as bran, shredded wheat, unpeeled fruit, string beans, etc.).

Alcohol and tobacco in any form should be excluded in all stages of treatment.

Very hot foods and frozen foods, in many instances, are inadvisable and should be omitted.

The essential features are:

1. A diet that makes a minimum demand upon the acid-forming function of the stomach, that will not irritate and that will

so dilute the acid present as to relieve discomfort and lessen the tendency to further damage.

2. Neutralization of the hydrochloric acid of the gastric contents.

3. Relief of discomfort.

4. Reduction in the amount of acid formed.

The powder referred to consists of the usual mixture of alkalies with bismuth and atropine. We use bismuth subnitrate in preference to the subcarbonate, and usually atropine sulphate in preference to the tincture of belladonna.

It is well understood that magnesium oxide would most satisfactorily effect the neutralization of acid if it could be given in sufficient amount, but its laxative effect and tendency to produce rectal discomfort renders this impossible, so it is used only in amounts that experience has taught can be well tolerated by the average patient, and other alkaline agents are employed to reenforce it. This results in a formula that seems rather of the "shot gun" type. Our average prescription is something like this:

℞

Atropinae Sulph., gr. 1/10

Bism. Subnitratis,

Magnesii Oxidi,

Calcii Carb. Praec.,

Sodii Bicarbonatis, aa z iv

Sig. Level teaspoonful in water three times a day.

The druggist is instructed to put this in a wide-mouth bottle. It is ordered in bulk so that the dose may be changed with greater ease.

Recent investigation has tended to establish that much of the local pain in these cases is caused by muscular contraction involving an irritated or ulcerated mucosa, so, if gastric pain is present (or there is insomnia, headache, etc.), sodium bromide is given with this powder until discomfort has been relieved. A period of rest in bed and the employment of hot applications to the abdomen will contribute to early relief.

If missing the morning coffee causes headache caffeine may be used or a small cup of coffee (without sugar) given each morning and followed by a glass of cold milk.

The progress of each case is checked by gastric analyses and by the effect upon the symptoms.

The most common error is that of discontinuing treatment too soon. Many months are usually necessary to repair the damage that has been done and to re-educate the gastric function.

A return to the former manner of living that originally caused the condition is very apt to initiate a recurrence.

In all cases good wholesome exercise and recreation in the fresh air and sunshine; proper habits in eating and living generally, and cheerful mental relaxation are adjuncts of value beyond compute.

Let me say in closing that, as the medical treatment of peptic ulcer is practically the treatment of hyperchlorhydria, I have used this plan in all cases of proven or suspected ulcer and with very satisfactory results. Of course, in known ulcer cases we progress slowly with the various stages of treatment and individualize to a larger extent. Such conditions as hemorrhage or excessive pain require the abandonment of this routine, as such, until the disturbing factor has been brought under control.

DISCUSSIONS.

Dr. Sidney K. Simon (New Orleans): There were two thoughts that came to my mind in listening to Dr. Bethea's splendid paper. One was that hyperchlorhydria is not a disease but merely a symptom. A very important detail before treatment is instituted in hyperchlorhydria is an attempt to find the definite cause.

Dr. Bethea mentioned some of the more common causes. The determination of the cause involves,

of course, as in every medical case, a most careful scrutiny into the background of the case. But among the more common typs of causes of hyperchlorhydria, I think, might be mentioned, first, the over-indulgence of the use of tobacco, particularly cigarette smoking. We found in a great number of cases of so-called hyperchlorhydria, that the simple expedient of depriving the individual of the number of cigarettes smoked per day has been sufficient without any other treatment in relieving the symptom.

Another very prolific cause in many cases, I think can be found in the colon. A great many of our cases of irritable colon is a reflex gastric hyperchlorhydria. This irritable colon may or may not be accompanied by persistent intestinal stasis.

Apart from that, the other thought that came to my mind was this, that when we speak of hyperchlorhydria we are really dealing with two factors. One is an actual chemical hyperchlorhydria in which by gastric analysis the chemistry of the gastric juice is found to be actually hyperacid. There is an increase in the acid elements.

There is another group of cases that represents quite a large number that come to us complaining of hyperacid symptoms, so-called hyperacid stomach, in which chemical analysis of the gastric juice fails to reveal any actual hyperacid chemistry. In other words, many of these cases have a hypo acidity, and some of them an achlorhydria.

A very well recognized instance of this is in the gall tract cases where we have reflex dyspeptic disturbances of gall tract disease very, very frequently. As most of you know, patients come to us complaining of acid stomach. This acid stomach is the outstanding feature. On analysis of the gastric contents of these cases, in the vast majority of instances, we fail to find the expected actual chemical hyperacidity, but instead a very much lower acidity.

I think we ought to distinguish, in cases of hyperchlorhydria, between the actual hyperchlorhydria itself and the clinical symptomatology which points to a hyperacid stomach, but treatment of which would be quite different in these two groups of clinical conditions.

Dr. R. Bruce Wallace (Alexandria, La.): The subject of hyperchlorhydria is of particular appeal to the profession because it is encountered so frequently in our practice.

Of all the secretory disturbances of the stomach, that which is characterized by an increase of the free hydrochloric acid during the period of digestion is by far the most common. Of those suffering from indigestion, hyperchlorhydria is present in from fifty to seventy-five per cent of all cases, thus it is incumbent upon the physician either to confirm or eliminate its presence in the successful treatment of this secretory abnormality.

It must be borne in mind, however, that a given acidity may be normal in one individual, and the same acidity may produce distressing symptoms in another, and thus be pathologic.

The successful management and treatment begins with the removal of all distant and local causative factors, more particularly from the very beginning of the digestive tract to its extreme termination, as enumerated by Dr. Bethea. Even peritoneal adhesions may be a factor. Hyperchlorhydria may exist after all these procedures, and it may exist as primary pathology; in the latter instance we are dealing with true gastric neuroses.

This condition is observed frequently in young individuals; in children it often occurs as a primary disorder, as they rarely have gastric and duodenal ulcers and gastric carcinoma. After ruling out pylorospasm and hypomotility, which produce gastric retention and resultant hyperacidity, the treatment is comparatively simple and consists of properly-timed meals, viz: breakfast at 7:30, lunch at 12:30 and dinner at 6. The temperature of the foods should not be at either extreme. The habit of eating between meals and irregular hours should be discouraged, and that of too liberal patronage of the soda fountains and confectionery stores should be condemned. Too much sweets, and the habit of taking large quantities of undiluted orange juice on an empty stomach often produce hyperchlorhydria. In fact they are managed just as Dr. Bethea outlined, and if not, many of them are in line for later surgery.

Also, relative to the adults, Dr. Bethea's diet slips and his medication are a demand, as no patient is expected to remember a verbal list. These patients are instructed to report from time to time, re-examined (which includes gastric analysis) and then further advised. This supervision must be continued for many months, and even then we must know that recurrence is quite common.

Additionally many of these patients are benefitted by baths of regulated temperatures, daily walks, golf, frequent fishing trips and occasional visits to the seashores and mountains. Happiness in their field of endeavor and domestic life are frequently factors to be cultivated.

Dr. Bethea mentioned the necessity of thorough mastication;—among other things, this requires at least a minimum surface-contact of the bicuspids and molars, and the teeth should be inspected. I am reminded of an old lady at an experience and thanksgiving meeting who stated that even though she had only two teeth left, yet she thanked the Lord that they both met.

Dr. Oscar Bethea (closing): I only wish to say that a man is always fortunate when the discussion of his paper is confined to his friends, as was the case with me.

I have a number of the forms such as we have been using in the Baptist and Charity Hospitals in New Orleans. In case anyone would like to take some of them for any purpose, they are here for you.

THE SIMULATION OF VISCERAL LESIONS BY NEURALGIA OF THE NERVES SUPPLYING THE ABDOMINAL WALL.*

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The subject of this paper might have been stated as intercostal or parietal neuralgia, terms used by Dr. J. B. Carnett of Philadelphia, who has been intensely interested in this condition. It was from his teachings that I was further stimulated to study this subject and I have drawn on his reprints in writing this paper.

The intercostal neuralgia complex, which I will later describe, is nat to be confused with the viscerosensory reflex theory as stated by Head, MacKenzie and others. They learned to examine for parietal tenderness, but they look upon the superficial hyperesthesia as being indicative of an intra-abdominal affection. Writers do not agree to the exact parietal findings which indicate a given visceral lesion. Dr. James MacKenzie and his followers believe that pain and tenderness of the abdominal wall should be regarded as a visceroparietal reflex indicating an intra-abdominal lesion in the following manner. The abdominal viscera, which are not supplied by nerves of pain sense and, therefore, when diseased can not manifest pain in themselves, will, when diseased, send stimuli over a sympathetic branch to the spinal cord and create therein an irritable segmentable focus. The result is that the normal afferent impulses coming from the skin and muscles over the intercostal nerve to that irritated spinal segment will give rise to painful impressions which are in turn referred over the intercostal efferent fibers to the peripheral tissues.

The types of cases in which this reflex can be shown are infrequent and careful study will demonstrate that certain intra-abdominal inflammatory lesions may cause parietal tenderness either by toxemia or by involvement of the abdominal wall. For these reasons another cause for the parietal manifestations must be sought for.

The anterior abdominal wall is supplied by the seven lower intercostal and the first lumbar nerves. Irritative lesions of these nerves may occur from a great variety of causes and very frequently pain and tenderness of the anterior abdominal wall are produced. A frequent cause of irritation is an acute infection especially of the upper respiratory tract. Common causes of chronic irritation are located in the spine and are chiefly arthritis, lateral curvature and excessive lumbar lordosis. The possibility of the symptoms of pain and tenderness being parietal is usually not considered by the diagnostician and these symptoms are wrongly attributed to a lesion of whatever organ underlies the area of localized tenderness.

In differentiating between parietal tenderness and intra-abdominal tenderness, a simple two-stage bedside test may be used: 1. In any patient complaining of abdominal pain and tenderness, the examiner follows the usual advice of gaining the confidence of both the patient and his muscles and then palpates. Irrespective of whether the tenderness is parietal or visceral, the examiner's fingers may dip fairly deep into the abdomen before tenderness is elicited. Because of the deep position of the fingers, it is generally assumed that the tenderness is intra-abdominal, but in a high percentage of cases this assumption will prove to be wrong as shown by the following step. 2. The examiner keeps his fingers at the most sensitive area that he has found on deep pressure and requests

*Read at the meeting of the Issaquena-Sharkey-Warren Counties Medical Society, April 8, 1930.

the patient to make his abdominal muscles rigid, either by contracting his diaphragm or by raising and holding his head from the pillow. As the patient makes tense his muscles, the examiner relaxes his finger pressure so that his fingers rise out of the abdomen. Then with the patient's abdominal muscles tense the examiner reapplies pressure with his finger tips and he may also exert a little twisting motion with them. If the case is one of intra-abdominal tenderness only, the second stage of the test will fail to elicit any tenderness when pressure is applied over tense muscles. If the case is one of parietal tenderness, almost or nearly as much tenderness will be elicited by the second test as by the first.

In the absence of a complicating peritonitis many intra-abdominal lesions are free from demonstrable tenderness. C. H. Mayo has commented on hyposensitiveness of areas in the stomach, gall bladder, and appendix, although extensively diseased as shown by operation.

Tenderness of the abdominal wall exceptionally may be due to a variety of local lesions such as trauma, abscess, myositis, cellulitis, dermatitis, etc., of the abdominal wall, but usually it is caused by neuralgia of the lower six intercostal and first lumbar nerves. Involvement of a single nerve is unusual. Bilateral involvement is fairly common but ordinarily several adjacent nerves of one side only are affected. Most patients believe that their pains are inside the abdomen and not in the parietes.

In testing for tenderness, comparison should be made between the particular area under examination and an area of normal sensation. This comparison may be made by testing corresponding areas on opposite sides of the mid-line. Some of the tests for tenderness require intelligent co-operation on the part of the patient and are, therefore, of less value in patients that are mentally deficient. Tenderness due to parietal neuralgia can be demonstrated in a number of ways:

1. By deep pressure. Tenderness over the terminal branches of the parietal nerves may be demonstrated by firm pressure with palpating fingers both when the abdominal muscles are tense and when they are relaxed. The tenderness will probably not be uniform throughout the hypersensitive area. The most marked tenderness is frequently found along the outer border of the rectus muscle at localized points which likely coincide with the points at which the nerve branches pierce the posterior layer of the rectus sheath.

2. By pinch test. Pinching the skin and subcutaneous fat between the examiner's thumb and index finger is the simplest, easiest and most practical test for finding the approximate area of tenderness. An interesting application of this test can be made in unilateral cases in which the hyperesthesia approaches the mid-line by picking up a fold of skin and fat on each side of the mid-line and pinching it between the thumb and finger, whereupon the patient will complain of pain on the affected side only.

3. By superficial skin tests. As a rule skin hyperesthesia is shown by stroking with a cotton wisp, by applying heat and cold, and by pricking with a pin. In a few cases all these tests may reveal an area of hypoesthesia instead of the usual area of hyperesthesia.

4. By pressure on nerve trunks. Tenderness may be found along the course of the nerve trunks supplying the tender area. This tenderness is easier to demonstrate in the case of the seventh, eighth, ninth, and tenth, intercostals than in the eleventh and twelfth intercostal and first lumbar nerves. Frequently there is found tenderness over many more nerve trunks than would be indicated by the area of peripheral tenderness as shown by tests one, two and three. In exceptional cases the chest terminals may be involved and tenderness by tests one, two, and three may be found extending from the mid-line in

front to the mid-line of back over the chest as well as over the abdomen.

5. By pinching flank muscles. In some thin individuals it is possible to demonstrate tenderness by picking up a fold of skin, fat and superficial layer of muscle in the ilio-costal space at the outer limit of the abdomen without encroaching on the underlying peritoneum, even when tests two and three of the same area of skin and fat reveal normal sensation.

6. By pressure over transverse processes of vertebrae. Often when hyperesthesia is not found in the skin and muscles overlying the vertebrae, and tenderness of the spinous processes is also absent, deep pressure will reveal tenderness of one or more transverse processes of the vertebrae. This is regarded as evidence of irritative lesions in the region of the intervertebral foraminae.

7. By pressure over remote areas. If the first and second intercostal nerves are affected, their branches which run into the arm may give rise to tenderness or to spontaneous pain or to both in the arm area supplied by them. When the ilio-inguinal nerve is involved, a band of tenderness on pinching or pressure up to two inches in width may be found parallel to and below Poupart's ligament. Pinching of the two labia majora simultaneously between the thumb and finger may reveal hypersensitiveness of the labium on the affected side only. When the last intercostal and first lumbar nerves are affected, there is commonly found an area very sensitive to pressure over the upper part of the buttock just beneath the crest of the ilium, well posterior to the great trochanter.

The tests which have been described are usually valuable in making a differential diagnosis between parietal neuralgia and intra-abdominal disease. As a rule, intercostal neuralgia is only a syndrome which may be present in any one of a great variety of lesions which involve the spinal cord, the intercostal nerve roots, trunks or terminals. The disease responsible may be an irritative lesion of the sensory tracts in the spinal cord; any form of spinal meningitis, especially syphilitic and tuberculous; a disease of intercostal sensory nerve roots or ganglia, as in sarcoma, secondary carcinoma, herpes zoster, tuberculosis, syphilis of the vertebrae; various forms of arthritis and osteo-arthritis of the spine, typhoid spondilitis, abnormal curvature of the spine; direct or indirect trauma of the spinal region or fracture of one or more ribs; exogenous toxins as alcohol, lead, arsenic, antitoxins, sero-bacterines, and also, endogenous toxins as from infected tonsils, carious teeth, upper respiratory tract infections, pneumonia, pulmonary tuberculosis, intra-abdominal foci of infection, infectious diseases; various constitutional affections such as anemias, syphilis, diabetes, blood dyscrasias, etc. Frequently it is impossible to determine the definite cause and often two or more causes may be acting together in a given case.

The symptoms of intercostal neuralgia may last a few days, or may persist over a period of years in which they may be fairly constant, remittent or intermittent, or may be subject to repeated exacerbations. The pain may be severe or mild. There is a great diversity in the clinical pictures presented by the patients with this condition. If the pain and tenderness are of recent origin, fairly severe, and right sided an emergency appendectomy may be performed on an appendix which does not show any present signs of active disease. The surgeon may theorize that it is kinked or otherwise vaguely diseased to account for the acute symptoms. Patients with intercostal neuralgia are sometimes subjected to test meals, cholecystograms, bile drainage, pyelograms, cystoscopies, ureteral catheterizations, proctoscopic and vaginal examinations, and various laboratory tests of spinal fluid, blood, urine, feces, etc., in the vain effort to discover the cause of pain and tenderness which are independent of any intra-abdo-

minal lesion. A futile exploratory laparotomy may then be done, or if a revealed lesion is corrected the course of the intercostal neuralgia may not be influenced and the patient will complain of the same pain and tenderness after the operation. The patient will go to other hospitals and will probably be branded as a neurotic or else subjected to an operation for adhesions, which are not found to account for the pain. It has been said that if the patient is a woman she is apt to have three operations, first an appendectomy, then a salpingo-oophorectomy and then an operation for adhesions. After that she may follow cults, become a dope fiend or if the pains are unusually severe commit suicide. However some women continue to be operated on. I recently saw a woman who had had eleven operations.

That the pains of these patients are real is evidenced by their willingness to undergo many operations in the hope of obtaining relief from their prolonged pain and tenderness. An examination as outlined in the early part of this paper substantiates the claims of the real sufferer and exposes the malingerer, because the latter's efforts reveal discrepancies between his claims and the anatomical distribution of his nerve supply. Care should be taken in making a diagnosis to dissociate the symptoms indicative of a true intra-abdominal lesion. Lack of consideration of either paritel neuralgia or visceral lesion in a given case may result in a grave error. If parietal neuralgia is not considered, the surgeon will be enabled to perform more operations, but recognition of the condition will prevent many operative failures, including those cases in which lesions are removed skillfully.

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A SURVEY OF EIGHTY-FIVE CASES OF RECTAL STRICTURE.

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The following survey of eighty-five cases of rectal stricture was made from the hospital records of various hospitals of Memphis, Tenn. It was not our original intention to use this survey as the basis for a paper at such a gathering, as we have at present, it being my intention to present these findings to the group with whom I was associated at the time simply for discussion. It was greatly desired, however, to throw some light upon the etiological factors and methods of treatment then in use. This study adds nothing new, perhaps, to the already voluminous literature on this subject, but permits some very interesting comparisons, deductions and speculations not only on the subject of stricture, but the whole of pathological conditions of the colon, and below the umbilicus.

A few general remarks may be made upon this subject by way of introduction. It is a reasonably well established fact that strictures of the rectum are situated within 3 or 3½ inches of the anus; that females are more frequently affected than males; and that the onset is gradual. The etiological factors may be divided into four sub-heads, as follows:

1. Congenital.
2. Spasmodic.
3. Inflammatory.
4. Other causes.

1. Congenital—This type of malformation maybe a partial septum between the anus and rectum. The history is that of constipation from childhood. Ulceration or fistula in this type is said to occur below rather than above the constricting area due to impaired blood supply below the stenotic point.

2. Spasmodic—This type is said to be due to chronic spasm of the intestines. It is doubtful, in our own mind, as to the real existence of this type of stricture.

3. Inflammatory—This type may be simple, tuberculous, syphilitic, neoplastic, dysinteric, traumatic. Neoplasm may occlude from without or within the rectum. Occlusion in ulcerating carcinoma is more the result of an inflammatory process than an outgrowth of tissue.

With regard to the tuberculous type, it is said that tubercle bacilli are frequently found in the stools of those not suffering with tuberculosis. It is also said that 50 per cent of those suffering with pulmonary tuberculosis have some secondary infection in the bowel. Sourdille gave the opinion that tuberculosis was an etiological factor in one-third of all cases of stricture. This, however, may be doubted.

4. Other Causes—Under this head we may mention any condition which produces a cellulitis of the peri-rectal tissues, as vulvo-vaginal abscess; gynecological operations which stretch or occlude the superior hemorrhoidal artery; foreign bodies; injuries of childbirth; inflammatory conditions of the tubes and ovaries; diverticulitis, etc.

Lynch things there may be some specific bacterium which comes in contact with cells resulting in general fibrosis and stricture.

Now back to the subject in hand. As stated, this data was collected from the hospital records of these cases. Twenty-three (23) of the series were white and sixty-two (62) were colored. There were seventy-five (75) females and ten (10) males.

The ages varied from eight (8) months to sixty-five (65) years. The average age at which patients sought relief was 33.4 years. Given by decades, there were two (2) cases under twenty years; eight months and eighteen years respectively;

27 occurred between 20 and 30 years;
30 occurred between 30 and 40 years;
15 occurred between 40 and 50 years;
8 occurred between 50 and 60 years;
1 occurred between 60 and 70 years;

and the age of two did not occur on the charts.

Special attention was given the histories to determine the number who had ever had previous symptoms referable to the anus or rectum. Twenty-three (23) gave no history of any previous complaint referable to the anus or rectum. Thirty-eight (38) gave a definite history of previous rectal disease. Twenty-four (24), at the time of admission to the hospital, were suffering with some other rectal condition than stricture. In other words, stricture may be looked upon as the outcome of previous rectal pathology in sixty-two (62) of the 85 cases, and a primary condition of stricture cannot definitely be said to exist except in the first mentioned 23 cases.

There was no mention in two histories as to whether any previous rectal operative proceedure had been performed. Only twenty-seven (27) had definitely undergone some previous rectal operation, and it was interesting to note in a number of these that their present symptoms dated to the former operation. Fifty-six (56) had never submitted to previous rectal operation, but 24 of the 56 were suffering with anal pathology other than stricture on admission to the hospital.

The duration of symptoms was from three weeks to twenty-five years.

There was naturally a wide variation in the chief complaint. Only ten gave bleeding at stool as the chief complaint, though forty-five (45) gave the history of having blood in the stool. Five (5) gave diarrhea or alternating diarrhea and constipation as their chief complaint; and forty-one (41) gave constipation of varying degree. Others gave "straining at stool," painful defection," pain in the abdomen," fullness,

uneasiness, and discomfort about the rectum. Usually the abdominal pain was on the left side.

The attempt to locate the stricture with relation to the anus was made, but had to be discarded on account of the wide discrepancy of the figures given, even on the same chart. None, however, were diagnosed by an effort to pass the sigmoidoscope, and all were within reach of the index finger, hence low.

The figures regarding syphilis are particularly interesting as 62 of these cases were negroes. In only 28 cases was there a positive Wassermann or a history suggestive of luetic infection. The physician admitting the cases or who first made the diagnosis of stricture almost invariably made syphilis as the secondary diagnosis or etiological agent, before the case had been worked up. There was no history of syphilis or a negative Wassermann in 55 cases. The Wassermann reaction was obtained in practically all. There were two cases with a questionable leutic infection.

As might be expected, there was considerable variation in the treatment. On six charts there was no mention as to what disposition or treatment was given. Eleven (11) were subjected to colostomy, 3 of whom died. Divulsion was mentioned as the surgical treatment in 47 cases, and proctotomy was performed on several of these, numbering 18 for proctotomy. One stricture was excised. Kraske operation was performed in one case. Fifteen received no treatment. Radium was used in one case and the roentgen-ray in another. Seventeen (17) underwent other rectal operations than the above at the time of treating the stricture.

Strange as it may seem, with patients having a primary diagnosis of stricture of the rectum, there was no mention in 28 charts of the condition of the stool. Forty-five (45) gave a history of passing blood in the stool, as already stated. Nine (9) stated the stool was always liquid, and gross pus was said to be present in 13 cases. Only eight (8) had "ribbon" stools. Nine (9) mentioned mucous in the stool and one had hard impacted stools.

While going through these charts, I was impressed with the large number of women who had previously delivered children. Child-bearing evidently has a marked etiological relation to rectal pathology, and 33 of the last 37 females noted were mothers.

Only one of the 85 cases was diagnosed cancer of the rectum, and this was one of the 15 which received no treatment. One had a previous diagnosis of cancer, which was not confirmed on admission to the hospital. A papillary growth was removed in one case. Only one case was definitely considered tuberclous, and this patient had had pulmonary tuberculosis for ten years. One is struck with frequency with which these strictures are associated with fistulae, often times multiple, or recto-vaginal.

The above figures compare remarkably close with other observers of this condition. Buie found the average age to be 40 years, with 56 per cent of his cases between 30 and 40 years, and 96.7 per cent above 20 years. Buie's series of 258 cases consisted of 120 females, 65 of whom had borne children. Tuttle had 216 females in 313 cases; Poelchen had 190 females in 215 cases; Carres had 210 females in 266 cases. This makes a total in the combined series of 756 females in 1,052 cases.

History of previous rectal operation was given in 148 of Buie's series. Gant, Lynch, and others mention operative procedures on the anus and pelvis among the etiological factors. You will recall that 62 of the 85 in the present series had either undergone operation on the rectum, or were suffering with some operable condition when first seen. It would seem then that approximately 50 per cent of all strictures are due to previous operation. If then, we consider the multitude of known

etiological factors—as the dysenteries, ulcerations, hemorrhoids, fistula, etc.—which act as the cause of the remaining approximate 50 per cent, it perhaps is not unreasonable to look upon stricture practically, if not always, as a secondary condition.

Syphilis, to my mind, from these figures, can almost be ruled out as a primary cause for stricture. Lookhart Mummery (1914—Diseases of Rectum and Anus, A Practical Handbook) says, "It cannot be proved that syphilis is a cause of rectal stricture." Tuttle states that non-syphilitic stricture may exist in the syphilitic. In Budie's series of 258 cases, only 55 had positive evidence of syphilis in the Wassermann or history, and 32 of the 55 had previously been operated upon, suffered with amebiasis, etc., which might have acted as the causal agent. But the medical management of 149 of his cases with anti-syphilitic treatment in nearly all, shows the attitude of the profession regarding syphilis. Gant states that four decades ago proctologists claimed from 50 per cent to 80 per cent of strictures were syphilitic, while now they only claim 10 per cent. He also states that chancre, in the absence of mixed infection, is never responsible for anal constriction, but that proctitis syphilitica, secondary ulceration, anal fissures, and gumma may cause stricture. At the same time he adds that he has never treated but one stricture from gumma. Buie says the negative Wassermann reaction does not disprove the existence of syphilis, and that a positive reaction does not prove that syphilis is responsible for the stricture. It would seem, then, that to regard and treat strictures as syphilitic is unwarranted, almost without exception.

The pathology of stricture is obviously as varied as the cause.

Symptoms may be local or general. The local manifestation generally being a sensation of something wrong in the region of the rectum, muco-purulent discharge, or blood in the stool. Blood in the stool and constipation are the most constant symptoms.

Treatment must be directed toward making the patient as comfortable as possible as well as relieving the obstruction. Most treatment will not give complete cure, and the conservative method necessitates continued divulsion and leads to obstruction if not consistently followed. Surgery is not entirely satisfactory, since we are dealing usually with scar tissue. Resection is the most desirable, but the operation is difficult and the risk is high. With diarrhea, cramps, a dilated colon, etc., an artificial anus may have to be resorted to, and colostomy is the most dependable method. Forcible divulsion, with or without partial or complete proctotomy is the most frequent proceedure, surgically. Wales bougies at regular intervals, with rectal irrigations, seems the most popular palliative plan. E. J. Clemens of Los Angeles uses carbon dioxide snow in the treatment of strictures, but he is ignorant as to how the snow relaxes the tissues, and we have had no experience with this plan of treatment.

Conscientious effort must be adhered to forever in every line, and "By careful postoperative treatment many complications are avoided, especially painful scars, strictures, and deformities."

Note—The above does not include report of 56 cases with a secondary diagnosis of stricture at the Memphis General Hospital.

CONTROLLABLE SPINAL ANESTHESIA.*

JOHN C. CULLEY, M. D.,

OXFORD, MISS.

For the past three or four years I have been interested in spinal anesthesia, and had a desire from the very first to give it a trial, but my closest friends in the profession discouraged me and I decided to abandon the idea, at least temporarily. My ardor was not cooled for long, because I had so many patients coming to me for operation whom I thought should not take an inhalation anesthesia so I was determined to try spinal anesthesia in a few cases at least. It so happened that about this time my friend, Dr. Kirl Avant, read a paper before our society and gave a most flattering report on the use of apothesin in spinal anesthesia. My next two operations, one for suppurative appendicitis, and the other for removal of the prostate, were done under this form of anesthesia. The anesthesia was perfect, the operations were completed in record time and the patients returned to their rooms in excellent condition. About thirty minutes after this time, however, I noticed that both these patients were in a state of profound shock. They had a feeble, rapid pulse, cold clammy perspiration and complained of extreme weakness and difficult breathing. All forms of stimulation failed to help the condition; nor did changing the position of the patients help. To make a long story short, after three or four days of anxiety on my part they both began to improve and made uneventful recoveries. This time my ardor was sufficiently cooled to prevent any more attempts with this particular drug. I do not mention this to condemn spinal anesthesia nor the drug which I used, for I feel sure that the fault lay in my technic. I have friends today who are using apothesin routinely in spinal anesthesia and are getting excellent results.

Soon after this, however, I read Dr. Pitkin's article on "Controllable Spinal Anesthesia" which appeared in the Journal of the Medical Society of New Jersey. His anesthetic was not at that time on the market, in fact no name had been given to his solution. It was being put up by H. A. Metz Laboratories for experimental purposes, and through the courtesy of Dr. Pitkin they sent me one dozen ampoules. I got such wonderful results that I requested more. They sent me another supply and by the time this was used the name of "Spinocain" was given the solution. Since that time it has been on the market and used quite extensively by those of us who have (as some have said) been fools enough to use this method of anesthesia.

For the past few years many theories have been advanced as to the action of drugs introduced into the spinal canal, and various technics have been followed in an effort to secure anesthesia to a certain level. Various solutions of known specific gravity have been advocated so as to limit the direction of diffusion and thus safeguard the medulla from fatal depression. Chief among the obstacles hindering the more general adoption of spinal anesthesia as a routine procedure is, as expressed by Campbell in 1925, a prejudice wrought of ignorance of the method and its proper usage. One has only to read the papers and reports of Pitkin, Koster, Stout, Tendler and many others to be convinced that this form of anesthesia is not a dangerous procedure, if used intelligently and by one who has a thorough understanding of the anatomy of the spinal canal and the solution which he is using. There seems to be some difference of opinion as to the desirability of inducing diffusion to the upper limits of the canal. We are advised by some not to permit the dissemination high in the canal because of the resultant fall in blood pressure; while on the other hand, Koster states that experience has taught them that it is advisable to induce, rather than to guard against, diffusion to the medulla and brain stem in

*Read before the Section on Surgery at the Sixty-third Annual Session of the Mississippi State Medical Association, Vicksburg, May 13, 1930.

order to secure anesthesia of the entire body. Those of you who have a dread of spinal anesthesia because of the sudden lowering of blood pressure and respiratory paralysis have only to read the article of Drs. Koster and Kasman in Surgery, Gynecology and Obstetrics of November, 1929, to be assured, if not wholly convinced, that your fears are unwarranted. My reason for mentioning Dr. Koster's paper is that he used neocain crystals dissolved in the spinal fluid alone and governs the height of anesthesia by the amount of fluid withdrawn; that is, the greater amount of fluid withdrawn and reinjected the higher will be the diffusion. Pitkin, on the other hand, uses a solution of lighter specific gravity than the spinal fluid and depends for dissemination on the expansion of the agent in the canal and limits such diffusion by posture. Although I have used spinocain in the series which I wish to report today, I have not followed Pitkin's technic to the letter. This was because I soon learned that every case did not respond alike and I was confronted with an occasional one in which I failed to secure anesthesia to the desired level.

Before describing the various steps in my technic I feel that it would not be amiss to mention some of the important points in regard to the spinal fluid and the anatomy of the canal itself. The researches of Weed, Dandy, Blackfan, and Cushing have disclosed several noteworthy facts: 1. The site of formation of the interventricular fluid is the choroid plexuses. The perivascular arterial spaces are probably the site of production of additional fluid in the subarachnoid spaces. 2. The circulation or absorption is toward the venous sinuses and the perineural sheaths, which are mesothelial lined spaces surrounding every nerve at its exit from the cranial cavity or spinal canal. Spinal subarachnoid fluid is largely dependent on the cerebro-meningeal source of origin and, although we can hardly speak of an actual current, the dissemination is at least caudal. 3. The rate of cerebro-spinal secretion is variable, and in the presence of increased cerebral pressure or of subarachnoid and interventricular drainage the rate of formation is increased to an enormous degree. These facts must be kept in mind in every subarachnoid injection of anesthetizing fluids, and one should try to visualize the possible relationship of the injected material to the anatomic area into which it is being injected and what then becomes of it.

In the lumbar and lower thoracic region the ligamenta flava often form a deep groove as they unite near the median line. If one is not careful the needle, as it strikes this point will be deflected to one side. Through the ligamenta flava the point of the needle enters the epidural space. This important region is filled with fat and veins with very delicate walls. In the median line, however, this space is comparatively avascular. As the needle point passes through this region it strikes the spinal dura, which is moderately tough, fibroelastic membrane, the majority of the fibers of which are arranged in longitudinal bundles, which when pierced with a sharp cutting edge produces free communication for the exit of spinal fluid into the epidural space or easily distended subdural cavity. To prevent this Pitkin has devised a short beveled needle which forms a window in the dura and closes when the needle is withdrawn. Passing through the subdural space the needle then enters the subarachnoid space which is incompletely separated into four divisions by the almost continuous streams of dorsal and ventral nerve roots so that there is a dorsal and a ventral compartment and two lateral compartments. It is further divided into a more complete dorsal and ventral segment by the ligamentum denticulatum. This is an irregular cribriform membrane which separates the motor from the sensory roots. When the anesthetic solution is injected into the posterior compartment diffusion into the anterior compartment, where the anterior roots containing the vasomotor constrictor fibers, are located, is dependent to a certain extent upon the number and arrangement of

the perforations in the separating ligaments. Thus, it can be seen if the needle is pushed through the posterior compartment and is forced through the nerve bundle forming the cauda equina into the anterior compartment, more anterior roots will be affected and more vaso constrictor will be blocked and the resultant pressure fall will be greater.

When the anesthetic agent diffuses upward sufficiently high for abdominal operations the rami communicantes are paralyzed, thus paralyzing the corresponding sympathetics. This produces a dilatation of the splanchnic vessels and the accumulation in them of large amounts of blood. If a sufficient number of roots are blocked, thus intercepting impulses which supply vasoconstrictor stimuli to the vessels we may have such a fall in the pressure as not to be able to get a manometric reading. With this marked dilatation of the abdominal vessels the venous return to the heart becomes so little that no sufficient blood is forced to the brain and we have a cerebral anemia with its symptoms of palor, nausea, vomiting, profuse perspiration and weak, rapid pulse. If such a thing should occur during the operation or at any time after the injection of the anesthetic solution the only way in which it can be counteracted is by use of the Trendelenberg position. The use of drugs is futile since the block has already been established. Any drug used would have to be depended upon to have its effect on the vasomotors. This it cannot do because it is unable to pass the blockade. If drugs are to be relied upon at all they must be used before operation and a sufficient length of time allowed to get the full effect. For this purpose ephedrin is the drug of choice. For the nausea which occurs sometimes immediately after the injection, we have found that smelling aromatic spirits of ammonia will usually be of great benefit.

ARMAMENTARIUM.

(A) Pitkin's solution. "Spinocain": One to three c.c. of Pitkin's solution, each c.c. (not each ampoule) containing 100 mg. of novocain, Metz; strychnin sulphat, 1.1 mg.; amyloprolamin, 130 mg.; alcohol, 324 mg.; normal saline, q.s. ad 1 c.c.

(B) Novocain-ephedrin solution: This is a 1 c.c. ampoule which contains 50 mg. of ephedrin sulphate dissolved in 1 per cent novocain.

(C) Two spinal puncture needles of 20 or 22 gauge.

(D) Two Luer-lok syringes, one of two and one of 4 c.c. capacity.

(E) One hypodermic of the finest gauge obtainable. It should never be less than 27 gauge—it is with this needle that the patient feels his only pain.

TECHNIC OF ADMINISTRATION.

I never administer the anesthetic except on the operating table. The patient is instructed to lie on the left side with the thighs flexed on his abdomen and legs on the thighs. His hands are then folded over his knees and the fingers clasped together. This brings the chin and knees together at the same time bending the spine so as to widen the spinous interspaces, rendering the puncture an easy procedure.

With the patient in position the head of the table is raised until the tiltometer shows a reading of seven to ten degrees. This part of my technic is different from any other that I have seen or read about. An area extending from the twelfth dorsal to the fifth lumbar is painted with iodin and alcohol. The site of puncture usually chosen is the second or third lumbar interspace. The 1 per cent novocain in 1 c.c. of the 3 per cent ephedrin solution is used to produce a wheal through which the puncture is to be made. Before withdrawing the needle the remaining solution is injected into the interspinous ligament. The spinal puncture is now made through the anesthetized area and the patient should feel no pain whatever. In making the puncture the needle should be kept at right angles to the long axis of the spine and in the mid-line. As soon as the dura is pierced

there will be a snap or ping which one soon recognizes after a few punctures. The stylet is withdrawn and fluid should drop freely from the needle. If it does not, the position of the needle should be changed or reinserted. The syringe containing spinocain is attached to the needle and spinal fluid drawn out, where it can be seen to flow along the most dependent portion of the syringe. If the fluid does not come out readily or if blood is in the fluid the injection should not be made. I always in every case draw out 2 c.c. of spinal fluid, thus filling the syringe to the 4 c.c. mark. Three c.c. of this amount are injected, leaving 1 c.c. in the syringe. I then draw out 3 c.c. of spinal fluid and inject the whole amount. The patient is immediately placed flat on his back and the abdomen prepared for operation with iodin and alcohol. Before the table has been further draped, however, the patient is tested to see how far anesthesia has extended. If an abdominal operation is to be done the head of the table is left elevated until the skin anesthesia reaches the umbilicus. The table is then placed in five degree Trendelenberg and the operation begun. As the anesthesia rises the head is further lowered. Should difficulty be met in withdrawing fluid the second time, I simply inject whatever amount remains in the syringe and allow time to elapse for the anesthetic to ascend in the canal. On two occasions it has taken 25 minutes for this to take place. Usually, however, the patient is ready by the time the draping is completed.

PRELIMINARY MEDICATION.

This consists of a hypodermic of ¾ gr. ephedrin one-half hour before operation and morphin sulphat fifteen minutes before operation, the dose of the latter depending upon the age of the patient. In quite a number of patients I have given two tablets of amytal (Lilly) per orum one-half hour before operation. This acts very happily, especially in nervous patients who have an idiosyncrasy to morphin. I have also noticed that those to whom we gave amytal, did not have as much nausea or vomiting immediately after the subarachnoid injection.

POST OPERATIVE CARE.

As soon as the operation is completed the patient is returned to his room and the foot of the bed elevated and allowed to remain so until sensation has returned to the lower extremities. When the patient begins to feel any pain whatever in the wound or in the lower extremities a hypodermic of codein or morphin is given. Water, coca cola or ginger ale is allowed in small quantities to allay thirst. Further post operative care should be the same as that following any other form of anesthesia.

The time which has been allotted me on this program is entirely too brief to go as fully into this most interesting subject as I would like. The paramount object of any form of anesthesia is to secure the greatest relaxation in the tissues with the least amount of danger to the patient. In the past the mortality from spinal anesthesia was so great as to cause its discontinuance for a time but for the past few years the improvement in technic and the development of pure and stable drugs have secured for this form of anesthesia a proper place in the armamentarium of the surgeon. Mortality statistics on spinal anesthesia are difficult to collect. Certain deaths which have been recorded under its use can in no way be attributed to the use of the anesthetic. Rygh and Bessesen in Minn. Medicine 11:744, 1928 have the following to say, "Present indications are that spinal anesthesia will eventually supplant other anesthetics for all operations below the diaphragm." Campbell in reporting results at Bellevue Hospital states that, "A comparison of our mortality with general and spinal reveals a difference of about 4 percent in favor of spinal." In a recapitulation of 326,910 cases Tendler found a mortality rate of one in 4,086 cases. In reviewing these cases critically, the greater number of these deaths were in cases where approaching death was plainly evident and death would have been inevitable

on matter what anesthesia had been induced. Within the past three years I have used spinocain in five hundred cases with no deaths. In this series I carefully watched every step and kept accurate records as to blood pressure, pulse, respiration, extent and duration of anesthesia, etc. I had failure of the anesthetic in only one case and inasmuch as the anesthesia was complete in the feet, I am certain that this was due to faulty position of the table. In three cases the anesthesia gave out because of the length of time we were operating and closure was done under gas and oxygen. One patient was unable to void and had to be cathterized for two weeks following operation. This is sometimes the case following inhalation anesthesia. One patient complained of pain at the point of injection for three days following operation. Not one has complained of headache. This is not in accord with Stout and Ewell who state that, "The method of Pitkin's was abandoned because of the occurrence of severe post operative headaches in a large proportion of the cases." The following is a list of the operations which I have done under spinocain and the purpose of this paper is to add this number to the rapidly growing list of what I choose to call "present day" spinal anesthesias:

Appendectomy, 20; Cystotomy, 5; Herniotomy, 13; Osteomyelitis, 2; Hysterectomy, 61; Myomectomy, 4; Cystoscopic Examination, 3; Amputation, 6; Exploratory, 7; Trachelorraphy, 3; Oöphorectomy, 41; Prostatectomy, 9; Dilatation and curettage, 16; Hemorrhoidectomy, 6; Debridement, 3; Enterostomy, 1; Perineorraphy, 6; Fistula curetted, 4; Salpingectomy, 45; Cholelithotomy, 2; Cholecystectomy, 5; Adhesions Released, 4; Abscess Drainage, 3; Caesarian Section, 2; Fracture Reduction, 9; Catheterization, 1; Intestinal Obstruction, 7; Gastroenterostomy, 1; Ulcer curetted, 1; Lipoma, 1; Ectopic, 4; External Urethrotomy, 2; Gastrostomy, 1; Cellulitic of foot, 1; Gunshot wound of abdomen, 3; Circumcision, 2; Uterine Suspension, 7; Reduction of Dislocation, 2; Forcep Delivery, 5; Gall Bladder Drainage, 2.

As for indications I will make the rather broad assertion that it should be used in practically all cases where inhalation anesthesia is contraindicated, and where in these cases the site of operation is below the diaphragm. The exceptions to the above would be a patient's idiosyncrasy to novocain, the meningitides, Potts disease, osteoarthritic spondylitis, and a fear on the part of the patient which cannot be allayed. I could not classify neurasthenia or low blood pressure as contraindications.

It is very necessary to have present at every operation an anesthetist who understands fully every step in the administration of this form of anesthesia and who can meet any emergency which may arise. I give all my anesthesias but have on hand my regular anesthetist, who keeps his position at the head of the table to regulate the degree of Trendelenberg or Fowler as the case might be. His duty is also to watch for any unfavorable symptoms and to keep the patient's mind diverted. It is our custom to keep a cold cloth across the eyes of the patient and the anesthetist usually carries on a conversation to entertain him.

I hope that I have not left you with the impression that I am a faddist or that I am an advocate of spinal anesthesia in every case. Probably 90 percent of all of our abdominal operations are done under this form of anesthesia, but before any choice is made the patient is consulted as to his preference. If his condition will, in our opinion, permit any form of anesthesia, the patient's preference is granted, but, on the other hand, if in our judgment an inhalation anesthesia is contraindicated he is advised of this and the value of spinal block is explained. Practically every one of our patients has expressed his desire for spinal block, should he or she require another operation, and it is nothing unusual for a patient to request on admission that he be allowed to have the operation under spinal. Especially is this true of colored patients.

I hope the picture which I will show you at this time will be both interesting and instructive. I wist to acknowledge my thanks to Messrs. Simms and Davis of the University for their assistance in making the picture and especially do I wish to thank Dr. Pitkin for his kind letters and assistance in securing slides and other valuable data which he has secured for me. To my mind Dr. Pitkin has given to the profession an anesthetic solution which will not only be a great help to the surgeons of the country, but will be the means of saving many lives, which might be lost from the effects of inhalation anesthesia.

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DISCUSSION.

Dr. E. E. Benoist (Natchez): In Natchez I think our main anesthesia is open drip ether. We use nitrous oxide and oxygen, also ethlyene, and amytal has been used within the last few months in some cases. In connection with spinal anesthesia, particularly in an individual who is nervous and wants to go to sleep, you can get the same or better result by using amytal preceding the spinal anesthesia, thus obviating the use of morphin. I have not had the experience Dr. Culley has had with spinal anesthesia, but I would like to confirm what he says. I have used novocain crystals, and my experience is that you get anesthesia high up, which is what is desired.

Dr. Arthur R. Porter, Jr. (Memphis, Tenn.): As Dr. Culley points out, spinal anesthesia is not a new procedure. For the past twenty-five years many drugs have been used in the spinal canal for the purpose of producing anesthesia, among which are novocain, cocain, strychnin, stovain, apothesin, and many others. The results have varied greatly in the hands of different operators as well as with individual patients. Sometimes there is failure to produce anesthesia; sometimes death on the table before beginning the operation. Enthusiasm has flared up every few years over first one drug and then another, lasted a short time and then faded out. The difficulty has been to find some drug or combination of drugs which would give uniform results that could be relied upon with some degree of certainty. Now the enthusiasm over spinal anesthesia seems to have more firm foundation. Dr. Culley's experience with spinocain almost parallels ours. Dr. McGehee, Dr. Smythe, Dr. Tendler and I have used spinal anesthesia in over one thousand cases with a great deal of satisfaction, and have not had a single death which we attribute to the anesthetic. Of our cases a few are included in the following statistics; the others I am unable to get records on and give detailed results on such short notice. The records at Memphis General Hospital show that 652 patients were given spinal anesthesia during 1929 and up to the present time this year. Of this number there were 25 failures; 19 cases had to be administered other forms of anesthesia to complete the operation; 34 patients complained of slight pain during operation; 66 patients were nauseated or vomited during operation; and three died on the table or immediately following operation. The last named three were critical cases and would probably have died regardless of the anesthetic. Of this series 42 were given chemically pure novocain crystals dissolved in spinal fluid; eleven were given neocain crystals dissolved in spinal fluid; and the balance were given spinocain.

We usually give alonal or barbitol the night before and in the early morning, and morphin sulphate hypodermically three-quarters of an hour preceding operation. Scopolamin was formerly used, but has been discontinued. Atropin we consider unnecessary, and rarely use it except for inhalation anesthesia. Our technic is essentially the same as that described by Dr. Culley. However, we use a 10 c. c. syringe to make the injection. The spinocain is drawn into the syringe, the syringe is attached to the needle, and as soon as the spinal puncture is made the spinal fluid is drawn into the syringe to the 6 or 8 c. c. mark; then the mixed solution is injected into the spinal canal, retaining one-half c. c. in the syringe; then one c. c. is drawn back into the syringe, which is then emptied into the spinal canal. The needle is withdrawn, the patient placed flat on his back and the table allowed to remain level for five minutes, then the head is lowered to the fifth degree. If there is difficulty in breathing, showing that the anesthetic is above the desired level, the head is lowered still further. For operations below the umbilicus we use 2 or 3 c. c. of spinocain, according to the duration of time required. For operations such as gall-bladder and stomach operations we use 3 or 4 c. c. We never raise the head above the level position. I consider it very dangerous to do so, though on several occosions I have gotten by with it. I have seen deaths on the operating table before the operation was started which I attributed to the fact that the patient's head was raised.

If a patient objects to the use of spinocain we never urge its use. If the choice is left with us we generally prefer spinocain unless there are some complications. Almost invariably patients who are operated upon a second time ask for spinal anesthesia, and we have a few cases which have been operated upon the third time under spinal anesthesia. Several patients in which it failed the first time have been successfully operated upon at a second operation by its use. As a general rule nurses are afraid of spinal anesthesia, and would rather have an inhalation anesthesia; interns, on the other hand, prefer spinal anesthesia.

From my observation, therefore, I can say that in my opinion spinocain is a controllable anesthetic, with less danger and fewer objectionable features than any drug used for spinal anesthesia; it gives complete relaxation of abdominal muscles; the intestines lie flat within the peritoneal cavity, permitting the most satisfactory exploration with the least trauma. Failure may be due to several reasons; there may be some fault in the technic by which the solution fails to reach the right place; there may be some variation in the anatomical structure which confines the solution to small pockets within the spinal canal; there may be an individual idiocyncrasy to novocain. We have found that patients who have had spinocain anesthesia are most enthusiastic about its use, particularly if they had previously had another form af anesthesia. If I were undergoing an abdominal operation my choice would certainly be spinocain.

Dr. J. K. Avent (Grenada, Miss.): To me spinal is like calomel—I like to give it, but I would surely hate to take it, unless I had some complication of the heart or kidneys; then I would take it. No anesthesia I have ever seen will give you the relaxation spinocain does. It is the most wonderful anesthesia we have today. It has come forward during the past five years more than ever before. For Cesarean section there is nothing like it. You do not get as much hemorrhage as you do under general, and you save the kidneys. I believe you can take a patient with convulsions and after you make the injections they will disappear. I have done a Cesarean where there was albumen and have seen it disappear. You do have headache in seven out of ten cases, and it is sometimes pretty severe. Adrenalin does not work on the blocked back, but it does peripherally. I say it is absolutely specific, and so far I have never seen it fail to bring the pulse back. The formula for spinocain has strychnin in it.

Dr. L. D. Dickerson (McComb): Last summer I was in Chicago attending clinics, and at Michael Reese they used controllable spinal anesthesia altogether below the diaphragm. I watched the procedure all the way through. They had a 250-pound girl on the table. They took out the appendix and did a complete hysterectomy by the usual routine Pitkin procedure. They demonstrated every step of the operation. The girl did not complain. She was on the table over two hours, and said she felt fine. At Augustana Hospital I also watched the operations, and they said they were using spinal anesthesia on all patients below the diaphragm, and had no mortality. If they do not take it well another anesthesia can be used. The first case I had was my own daughter, an acute appendix with hypertension. The next case was a colored girl with a heart condition, and she did not go to sleep. I removed the appendix, both ovaries and tubes. When we took her back to bed she asked for something to eat. There are very few cases in which you get nausea.

Dr. Willard Bartlett (St. Louis, Mo.) I speak wholly from memory and I will try to be very conservative. I am unqualifiedly in favor of spinal anesthesia. I have used it for a great many years, ever since it got over the hideous mortality caused by cocain and some other drugs. I know one thing—the adverse comments that I have heard are from men of slight experience, for all who have used it much are its greatest protagonists. I am convinced that it is the safest of the anesthesia methods for risks below the diaphragm, if one will forget the immediate mortality (and I have never seen anyone die on the operating table from it) and take into consideration the general effects of general anesthesia. Living as I do in St. Louis, where the air is full of carbon and dust, we see an enormous amount of upper respiratory tract trouble, after inhalation anesthesia. I have heard of people dying with pneumonia who did not have anesthesia, but we see an extraordinary amount of pneumonia after inhalation anesthesia. You may not like the idea of taking it yourself. Your patient might refuse it if they knew what they were going to get, but we give it to them without their knowing what it is. They do not know what form of anesthesia they had after it is over. I do not believe in talking these things over with patients. I have used spinal anesthesia on a vast number of patients, but I do not talk about xumbers without looking up my records. I have seen patients saw anybody die directly as a result of spinal. die after various forms of anesthesia, but I never saw anybody die directly as a result of spinal. I believe it is much the safest thing, if you will take into consideration a lot of other things, like getting the intestines all over the table and the time it takes to sew a patient up, when you have the intestines outside the body. I am much in favor of it for abdominal work.

CASE REPORTS AND CLINICAL SUGGESTIONS

A NOTE ON SYMPHALANGISM.

J. H. MUSSER, M. D.†

NEW ORLEANS.

Hereditary ankylosis of the proximal phalangeal joints is by no means an unusual hereditary dystrophy in certain sections of the country. W. C. Farabee[1] first showed that in the state of Pennsylvania there was a family in which there were quite a few members affected with this anomalous condition which obey the Mendelian laws most beautifully. Harvey Cushing[2] in 1916 wrote a very complete monograph in which he traced out the occurrence of the anomaly in seven generations. These individuals lived in a section of southwestern Virginia. He found that in the last two generations there were "169 children, 79 being the unaffected offsprings of 23 parents recorded as unaffect-

†(From the Department of Medicine, Tulane University of Louisiana and the Charity Hospital, New Orleans.)

Roentgenogram showing typical joints in symphalangism. Note the middle joints of the little, ring, and middle fingers.

ed, whereas from the 16 affected parents there were 90 children, 40 of whom were affected and 50 unaffected." In the seventh generation, of the 71 children, 55 were the offsprings of 18 unaffected parents, none of whom had the anomaly, but of the six parents of the sixth generation who had 16 children, 10 were unaffected.

The case that I wish to report occurred in a man, L. T., who entered Charity Hospital on account of "jake" paralysis, who had come from the state of Oklahoma. He knew comparatively little of his family except that in his own generation three of his six brothers and sisters were affected and in the generation that preceded him there were four who had the lesion and his mother had told him that one of her own parents was affected. It is, of course, impossible to secure much family history from a nomad such as was this man. His hands presented the typical features of symphalangism. The extent of the involvement may be best appreciated by the illustrations taken from the roentgenogram. It should be noted that the anomaly more frequently involves the second phalangeal joints than the others. From the roentgenogram one is inclined to believe that there is a congenital absence of the joint rather than an ankylosis—a fusion of the two bones.

(1) Inheritance of Digital Malformation in Man. Papears of the Peabody Museum of American Archaeology and Ethnology, Harvard University, 3:69, 1905.

(2) Hereditary Anchylosis of the Proximal Phalangeal Joints (Symphalangism), Genetics, 1:90, 1916.

CURRENT PROBLEMS OF MEDICAL EDUCATION—The content and scope of medical training are in the process of undergoing signficant changes. Until recently an effort has been made to familiarize the student as far as time, energy and capacity permitted with all the facts and methods in every field of medicine. Reacting to the obvious fact that no individual can master all phases of medical knowledge, the various courses are being made introductory in character with emphasis on principles, leaving the training in technical methods and details to be obtained later on in the course or to be provided as postgraduate training.—Rappleye, W. C., J. A. M. A., 94:916, 1930.

"TOO BUSY" TO ATTEND MEDICAL MEETINGS—Beware of the physician who is "too busy" to attend medical meetings especially those of his own county medical society. All kinds of excuses are offered by some physicians to "why" they seldom attend medical meetings, but the most frequently heard is that they are "too busy." The physician who is too busy, that he does not have time to associate with his colleagues, had better check up on himself and find out what's wrong. Who is it that writes your medical text books? Who is it that contributes the important articles to current medical literature? Who is it that you call in consultation when you have the opportunity to secure the best medical talent?

If you will make inquiry, you will find that it is the busiest men in practice. Yet these same men are those who are constantly attending medical meetings. You will find them at county, district and national meetings. They are there because they feel they cannot afford not to attend. They are anxious to keep up with the progress of medicine and recognize in medical society meetings the easiest way to accomplish this. One of the reasons they ARE "big" is because of their persistent attendance at medical meetings. Think of the scores of medical meetings, such well known men as Deaver, Mayo, Jackson, etc., attend. The great Osler was one of the most persistent attenders of medical meetings and seldom missed a meeting of his local county society.

Doctor, shake yourself and move. Come on out and attend more meetings. If you don't like the programs, tell them how they can be made more attractive. If you don't like those in charge of things, get your crowd organized so you can put in power those who will work harder for the society and who will put on programs that will appeal to all. But in any event, come out to the meetings. Don't hide yourself under a bushel.—Swanberg, H., Quincy Med. Bull., Nov., 1929.

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THE SOUTHERN MEDICAL ASSOCIATION.

The Twenty-fourth Meeting of the Southern Medical Association will be held at Louisville, November eleventh to fourteenth. From a small and inauspicious start the annual meeting of the Southern Medical Association has grown to be the second largest medical convocation in the United States. Peculiarly a Southern contribution to medicine, the clinics, the papers, and the scientific discussions are participated in for the most part by Southern physicians. The character of the scientific work exhibited at the sessions is such as to reflect great credit on the Southern doctor. So worth while is this meeting that it behooves every medical man in the South to consider seriously his present financial status and unless great sacrifices are required, to pack up and get off to Louisville for a four day educational holiday.

In addition to the excellent scientific program prepared by the Committee on Scientific Business, the Committee on Special Entertainment and Social Function has never lagged behind at a Southern Medical Meeting in providing a varied and ample program to entertain the medical visitors and those members of their families that come with them. Knowing the reputation of Louisville for cordial hospitality to all visitors within their gates, one can anticipate that the Twenty-fourth Annual Session will equal or surpass any previous meeting in its program of special entertainments.

BRUCELLIASIS.

There has occurred apparently a considerable number of cases of undulant fever in Louisiana and Mississippi in the past year. For this reason a recent article by Simpson* is timely. He writes that undulant fever is decidedly on the increase in the United States. Either there are many more cases or else because of the recent interest in the disease it is being generally recognized now whereas in the past the condition was undiagnosed. To illustrate the increased frequency of the disease he says that up to 1925 only 128 cases had been reported in the United States, but in the last year, 1929, there were reported 1301 cases to State Boards of Health. Every state in the Union had one or more cases of the disease. Undulant fever may be caused by the *Micrococcus melitensis* of Bruce or by the *Bacillus abortus* of Bang. It is quite possible that there are other organisms closely related to these two to which the name abortus-melitensis group of organisms has been applied generally. Because of the fact

*Simpson, W. M., Undulant Fever (Brucelliasis), Ann. Int. Med., 4:238, 1930.

that Bruce first isolated the melitensis organism, the generic name, Brucella, has been adopted for the several types of organisms belonging to the group, and Simpson suggests that it will be particularly appropriate instead of the name undulant fever to label people sick with these various manifestations of Brucella infection as having brucelliasis.

In this country the disease undoubtedly is conveyed in the majority of instances by *Brucella abortus*, transmitted to the human as a result of drinking raw milk or improperly unpasteurized milk from cattle who have the disease. In man the clinical picture of brucelliasis is reasonable clear-cut. Given an individual that is suffering a continued febrile course in whom there are no physical signs, the occurrence of severe sweats usually in the early morning hours, and the presence of fever, which occasions few subjective expressions, make likely the diagnosis which may be confirmed by proper agglutination reactions. This general feeling of well being in spite of an elevated temperature or at least a lack of prostration considering the degree of fever is about as characteristic a feature of the disease as any one finding.

The disease is a persistently prolonged and disturbing condition, frequently lasting many months and persisting in the ninety cases reported by Simpson for an average duration of four months. The organism shows the same tendency to invade the genital tract of the human as it does the bovine. Not only may it produce abortion in women, but in man causes various complications in the genital tract.

The diagnosis of a presumed case of brucelliasis may be confirmed by blood cultures or urine cultures, by animal inoculations and skin tests, most of which laboratory investigations are unnecessary in view of the fact that agglutinins appear in the blood by the second week and persist a long period of time. The most important consideration of the disease at present seems to be its prevention, especially to be accentuated is the absolute necessity for most careful technic in pasteurization processes. After the disease has developed there is no satisfactory method as yet available for treating the patient.

TO PARISH SECRETARIES.

The Secretaries of the various Parish Societies of the Louisiana State Medical Society are invited to look over the splendid section that is being edited by Dr. Lippincott, and which contains so much information concerning physicians in the State of Mississippi. This section is a real tribute to the Editor, who has labored long and hard in order to get the Secretaries of the County Medical Societies of the State of Mississippi, as well as the members of the Mississippi State Medical Association, interested in submitting news items for publication in the Journal. It is only by the earnest cooperation and help of these County Society Secretaries that Dr. Lippincott has been enabled to get together so much material for the Mississippi Section of the Journal. He has done this by a personal appeal and by written requests. We feel sure that an equally interesting section dealing with the doings, the actions and the activities of Louisiana doctors could be prepared. It is impossible of course for an Editor to get very much of the more intimate news concerning the medical men of the State, but if the Parish Secretaries would about the fifteenth of every month sit down at their desks, take their pens in hand, and write to the Editor just what their Parish Societies are doing, what the doctors themselves are doing, what is being accomplished in the hospitals and institutions of their districts, an interesting, informative and pleasing section could be provided for the readers of the Louisiana News Section of the Journal.

HOSPITAL STAFF TRANSACTIONS

VICKSBURG SANITARIUM AND CRAWFORD STREET HOSPITAL, STAFF MEETING.

October 10, 1930.

Abstract. Dermoid Cyst of the Ovary.—Dr. A. Street.

Patient.—White female, aged 24 years, married; three living children.

Chief Complaint.—Low abdominal pain, duration two months. There is some low back pain. Appetite poor; no loss of weight. History otherwise not remarkable. No menstrual disorder. Examination.—No abnormality aside from the findings by pelvic examination. The bimanual examination showed a mass about four inches in diameter, high in the pelvis, and to the right of the uterus. The mass was firm, smooth, irregularly rounded, and movable. The uterus was forward, normal in size and consistency and movable. No other pelvic masses made out. The blood count was not abnormal; blood Wassermann and Kahn tests, negative. The urine examination showed nothing abnormal.

Operation.—On August 29, 1930, under spinal anesthesia; low median incision. There was a firm tumor of the left ovary, with long pedicle which passed in front of the uterus so that the growth lay on the right side. Growth was easily removed, the appendix removed, and the wound closed without drainage.

Pathological Examination. — Ovary; 4¼x3½ x2½ inches, irregular pear-shape, smooth, white and pink. Filled with thick, clay colored, fatty fluid and colorless gelatinous material. Numerous brown stiff hairs, one five inches in length. Wall mostly thin. Near smaller end is mass 1¼x⅝x¾ inch, irregular, dense, containing several teeth.

Microscopic: Dermoid Cyst. Numerous sebaceous glands, large, some cystic; some hair follicles; considerable fibrous tissue, some hyaline; some fat. Epithelium squamous and hyperplastic some areas; some pearls. In smaller end are multiple cysts and a small fibroma with hyaline capsule. Some chronic inflammatory.

Discussion.—Dermoids are dangerous to the patient because of possibility of pressure on adjoining structures, rupture into the peritoneum, or into the intestine, or bladder. They may cause intestinal obstruction in several ways. The cyst may become infected and suppurate. A ruptured cyst may cause hemorrhage. Torsion and gangrene may occur. They may cause dystocia; malignant changes may occur. With these dangerous possibilities in mind, it is at once evident that such tumors should be removed, and promptly, after detection. Operation in neglected cases may be very difficult, especially after rupture has occurred. I have seen a good surgeon find it necessary to resect two segments of small intestine in order to remove a dermoid.

Abstract.—Malignancy of the Gum.—Dr. J. A. K. Birchett, Jr.

Patient.—White female, aged 27 years, married.

Complaint.—Slight warty growth behind upper left incisor tooth.

History of Present Complaint.—Has noticed slight roughness of mucus membrane of gum behind tooth for past two months but was not concerned. Did not know it was of any serious nature until she reported to physician for examination as she expects to be confined in the next few weeks. This examination did not reveal any abnormal findings except for some erosion behind the front teeth. A section of tissue was secured for examination. Family History.—One or two members of the family have died of cancer and father is suffering with a cancerous growth on face at the present time. Mother died three weeks ago of a thyroid crisis following thyroidectomy. Past History.—No serious illnesses; no abdominal operations. Tonsils removed. No previous pregnancies. Respiratory history negative; circulatory history negative; digestive history negative except for constipation and for the first two months of the present pregnancy, much nausea; has had no trouble since then. Has not menstruated for eight months; regular before that time; no pain. Physical Examination.—Warty growth, very small, at gum line behind upper incisor tooth. As piece was removed for examination there was profuse bleeding. Teeth sound; no pyorrhea. No palpable glands in neck. No thyroid enlargement. Heart normal; blood pressure 120-80; lungs normal.

Abdomen distended above umbilicus by symmetrical tumor with perceptible movement within —pregnancy of about eight months. Pelvic examination showed uterus soft and cervix very soft; no discharge. Skin negative. Blood and urine examinations essentially negative. Wassermann and Kahn tests negative.

Examination of tissue from gum showed carcinoma, group II.

Procedure.—Patient was advised to have immediate operation, which was accepted. Under ether anesthesia, the upper left incisor teeth were removed and the growth thoroughly cauterized to the alveolar process with actual cautery. There was

only slight reaction from this procedure and patient was discharged the day after operation. There was no discomfort or pain in the adjacent teeth and no gingivitis. Patient has made an uneventful recovery and will soon be ready for bridge work to take the place of the missing teeth.

Comment.—The most important fact in this case was that here we have a slight ulcerative growth of only six to eight weeks' duration which proved to be a serious condition, carcinoma. If this tissue had not been examined and this case allowed to go on for several weeks or months longer, there would probably have been metastases or extension and the out-look for cure would have been very much less. As it is a serious tragic situation has been averted by simple routine biopsy of suspicious tissue.

Abstract.—Gout.—Dr. L. J. Clark.

Case 1.

Patient.—White male, aged 72 years; constable.

Complaint.—Pain in left great toe, onset three weeks ago; later pain in ankle also. Burning in bottoms of feet for one year. Mucus accumulation in throat at night chokes him. Bad taste in mouth. Vague abdominal pain at times, not related to meals; constipation. He lost 20 pounds in weight in past six years. Nocturia, three or four times. Some headache; some swelling of feet; dyspnea on moderate exertion; some nausea and vomiting for past two days.

Past History.—Not remarkable. Father died of Bright's disease at age 78 years; mother died of "heart trouble" at age 77 years.

Physical Examination. — Markedly over-developed and over-nourished senile white male, apparently not in absolute comfort. Weight approximately 300 pounds; pulse 80, regular; blood pressure 150-60. Slight icteric tint of sclera, slight opacity of lenses; pupils normal. Poor oral hygiene; pyorrhea; putrid odor. Heart slightly enlarged; rate and rythm normal; sounds very indistinct. Abdomen pendulous, soft, some tenderness on deep pressure over the left lower quadrant. Liver edge two inches below costal margin; no fluid demonstrated. Some slight left costo-vertebral tenderness. Prostate slightly enlarged and soft. Slight swelling of ankles and feet; no pitting; normal dorsalis pedis pulsation; normal temperature and sensation; definite scaling of skin on upper surfaces of feet. Marked swelling, tenderness and redness of right tarso-phalangeal joint of great toe.

Clinical Laboratory.—Wassermann and Kahn tests negative. Urine: large trace of albumin; 0.5 per cent sugar; numerous hyaline and finely granular casts. Prostatic Expression; no pus or organisms found. Blood: hemoglobin 82 per cent; leukocytes, 14,500; neutrophils 70 with 31 immature forms; no malaria found. Urea nitrogen 25.9 mg. per 100 cc.; uric acid 8.3 mg. Glucose tolerance test did not show diabetes; suggested hyperthyroidism.

Fluoroscopic examination of colon showed marked spasticity.

Treatment.—Rest; diet low in purins; free elimination; colchicum. Patient responded well; there was relief of pain and a marked improvement in general condition and after remaining in the hospital one week, he was allowed to go home. On return at the end of ten days, blood uric acid was 11 mg. per 100 cc. but there was marked improvement in general condition and very little pain. Increase in uric acid may have been due to some indiscretion of diet as it is somewhat doubtful whether patient is following diet prescribed carefully.

Case 2.—Patient.—White male, aged 48 years. Complaint; swelling and burning of feet and ankles; onset two months before. Dyspnea on exertion; ten pounds increase in weight in the past three or four years. Smokes 12 cigars daily; drinks small amount of alcoholics daily. Had "rheumatism" in 1907; syphilis in 1924.

Physical Examination.—Rather obese; several bad teeth; blood pressure 135-108; tonsils slightly red. Marked swelling over antero-lateral surfaces of both ankles; slightly tender. Wassermann test negative; urea nitrogen 23.1 mg. per 100 cc.; uric acid 6.6 mg.; chlorides 500 mg. Blood and urine otherwise essentially negative. Prostate negative.

Treatment.—Instructed as to diet and given atophan. Advised to have bad teeth extracted. Patient now apparently in good health.

Case 3.—Patient.—White male, aged 49, physician. Came under observation in October, 1927, complaining of pain in joints of fingers and various small joints elsewhere, especially in great toe.

Physical Examination. — Several bad teeth; pyorrhea; blood pressure 110-70. Swelling and extreme tenderness of left tarso-phalangeal joints and several joints of hands.

Blood urea 24.5 mg. per 100 cc.; uric acid 3.2 mg.; creatinine 1.4 mg. Fluid from finger joints showed many sodium bi-urate crystals; no organisms. Blood and urine otherwise negative.

Subsequent.—This patient was treated in the usual way for some time with some relief but with frequent relapses. Blood uric acid varied from 3.2 mg. to 5.5 mg. per 100 cc.

Abstract.—Ileo-Colitis.—Dr. G. C. Jarrett.

Patient.—White male, aged 23 months. First seen Sept. 1, 1930.

Chief Complaint.—Fever; diarrhea; nausea and vomiting.

Present Illness.—When first seen, this child had seemingly been in excellent health up to three days before. Two days before awakend with fever of 104°F., nauseated and vomiting. Given enema with good results and following enema was given two teaspoonfuls of castor oil. Nausea and vomiting continued. About noon of that day began to have frequent, loose, watery, mucus stools and during next 18 hours had 20 or more stools of the same character but with much more mucus. The next 24 hours had about 20 to 25 stools, watery, greenish, and containing much mucus and bright fresh blood. Child was first seen at this time. Physical Examination.—Very toxic, dehydrated, apathetic, very acutely ill; temperature 104°F. Throat slightly red; right ear drum red; protruding ulcerated red rectum. Father stated that child had been taking milk obtained from a negro family in which the hygienic conditions were very poor and not controlled by the local health officer. Past History.—No illness up to present except for occasional colds. Development had been normal. Family History.—Essentially negative; one other child in family, one year of age and breast fed.

Course and Treatment.—At time of visit, child was put on skimmed boiled cow's milk in small quantities at frequent intervals; given fluids as water and orange juice in small amounts as desired.

A powder of bismuth subnitrate, chalk, and Dover's powder was given every three hours; tannic acid enemas every three hours; sponge baths as indicated for temperature.

The next day (Sept. 2) child was still having frequent loose watery stools containing blood and mucus. No nausea and vomiting. Fluids refused. Child looked even more toxic and dehydrated; lips red; pinched expression; skin was loose and very dry. Ulceration on the right buccal membrane due to biting. Child was admitted to hospital. Given clysis of 150 cc. of five per cent glucose, put on protein milk formula, given tannic acid enema and a powder of bismuth and chalk with parigoric. Child vomited only occasionally and took formula after being forced.

Sept. 3.—Temperature 104°F.; child apathetic, toxic, and vomiting occasionally; not taking fluids in sufficient quantity. Given 150 cc. of five per cent glucose solution intravenously. Having eight to ten loose stools with mucus and only occasional streaks of blood.

Sept. 4.—Temperature 101°F.; condition greatly improved; taking large quantity of formula, orange juice and water. Given 150 cc. of five per cent glucose by clysis. Ten to 12 loose watery stools with mucus but no blood.

Sept. 5.—Temperature normal; child restless; did not sleep well during night; fretful and very irritable. Stools less frequent and beginning to be formed with less mucus and no blood. Vomiting and refuses food. At this time there was some stiffness of neck but no pathological reflexes. Although a picture as just described is not unusual with this condition, spinal puncture was done and examination of fluid made. Given 175 cc. of whole citrated blood intravenously followed by a severe reaction with twitching of muscles, rigor, and temperature of 106°F. lasting for one hour. Tannic acid enemas discontinued but powders and paregoric continued.

During the interval from Sept. 5 to Sept. 11, the stools became more formed, there was very little mucus. Mental condition did not seem to improve and child was very irritable, fretful and tossing about bed continuously; vomited occasionally. Stiffness of the neck had disappeared and no pathological reflexes were present. Given 175 cc. of five per cent glucose by clysis.

From Sept. 11 to Sept. 17, child made a rapid recovery. Nervous and psychic disturbances disappeared. On discharge on Sept. 17, child was playing and taking a soft and liquid diet; stools normal. Since returning home, child has gained six pounds, has the appearance of perfect health, and mother states that he eats much better and a greater variety of foods than when taken ill.

Clinical Laboratory.—Sept. 2; feces showed macroscopic blood, few pus cells, no parasites or ova; cultures for typhoid and dysentery negative. Urine; slight trace of albumin; no acetone; no pus or blood. Blood: leukocytes, 4,600 with 26 per cent polymorphonuclears; no malaria found.

Sept. 3.—Blood: leukocytes 5,600; lymphocytes 40, large mononuclears 20, polymorphonuclears 40; no malaria found.

Sept. 4.—Leukocytes 13,200; lymphocytes 18, large mononuclears 2, polymorph neutrophils 77, eosinophils 2; basophils 1 per cent.

Sept. 5.—Spinal fluid; clear and colorless; cell count 2, small mononuclears; globulin negative; slight trace protein; colloidal gold test negative.

Sept. 11.—Leukocytes 18,400; lymphocytes 36, polymorphonuclears 64.

Summary.—This is a case of acute ileo-colitis, caused, I believe, by the ingestion of infected milk, and manifesting itself by a severe diarrhea, dehydration and intoxication, with marked nervous symptoms and psychic disturbances.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR.

November 3—Eye, Ear, Nose and Throat Hospital Staff, 8 P. M.

November 10—*Orleans Parish Medical Society.* Joint Clinical Meeting with the Charity Hospital Staff, Miles Amphitheatre, Charity Hospital, 8 P. M.

November 11—Baptist Hospital Staff, 8 P. M.

November 12—Touro Infirmary Staff, 8 P. M.

November 13—N. O. Hospital Council, Charity Hospital, 8 P. M.

November 14—French Hospital Staff, 8 P. M.

November 17—Hotel Dieu Staff, 8 P. M.

November 18—I. C. R. R. Hospital Staff, 12 Noon.

November 18—Charity Hospital, Medical Section, 8 P. M.

November 19—Charity Hospital, Surgical Section, 8 P. M.

November 20—Eye, Ear, Nose and Throat Club, 8 P.M.

November 24—*Orleans Parish Medical Society,* 8 P. M.

Nominations for Officers and Election of Delegates, Louisiana State Medical Society.

During the months of July, August and September the Society was in vacation.

During October two meetings of the Society were held. The meeting held October 13 was a joint Scientific and Second and Third Quarterly Executive Meeting. At this meeting two papers were read as follows:

Some Suggestions in Diagnostic Methods. Lantern slides.

By.....Dr. Oscar W. Bethea

Discussed by Drs. E. J. Beranger and Wallace J. Durel

Experimental Typhoid Fever—With a Consideration of Toxins and Endotoxins. Lantern slides.

By.....Dr. Wm. H. Harris

Discussed by Drs. C. W. Duval, Chaillé Jamison and J. H. Musser.

The reports of the Secretary, Treasurer, Librarian and committees were read for the Second and Third Quarters.

The membership approved the action of the President in inviting the American Medical Association to meet in New Orleans in 1932.

At the meeting of the Society held Monday, October 27, the following papers were read and discussed:

Acute Perforation of Peptic Ulcers.

By.....Dr. C. Walter Mattingly

Discussed by Dr. Urban Maes

Amytal.

By.....Dr. Ansel Caine

Discussed by Dr. P. Graffagnino

Avertin as a Basal Anesthetic.

By.....Drs. Alton Ochsner and I. M. Gage

Dr. Irving S. Cutter, Dean of the Medical School of Northwestern University, has been selected to give the annual Stanford E. Chaillé Memorial Oration in December. Dr. Cutter was for some years the Professor of Biochemistry and Dean of the Medical School of the University of Nebraska. Since 1925 he has been connected with Northwestern.

The furniture for the new building has been ordered by the Committee. All of this furniture has arrived and is stored in crates in the new building until time for moving. From the latest reports from Dr. Bass we will likely be in the new building by December 1.

TREASURER'S REPORT.

Actual Book Balance 8/31/30	$1,279.74
Receipts:	$ 948.65
	$2,228.39
Ex aditures:	$ 408.26
Actual Book Bal. 9/30/30	$1,820.13

LIBRARIAN'S REPORT.

During the vacation months of July to September, 398 books have been added to the Library. Of these 145 were received by gift, 219 by binding, 27 from the New Orleans Medical and Surgical Journal and 7 by purchase. New books of recent date are listed herewith.

Miss Blanché Lorenzen, formerly of the Branch Library of the Tulane Medical Library, has been appointed to fill the position of Library Assistant vacated by Miss Billon.

Preparations for moving into our new quarters are in progress, although the exact time when the move can be made is not as yet certain.

The Library Committee held one meeting, at which all members were present. A number of our doctors are preparing papers for fall meetings here and elsewhere.

NEW BOOKS.

Conn. Medical Society—Proceedings. 1921-27, 1929.
American Association of Genito-Urinary Surgeons. Transactions. 1926.
Valk—Errors of Refraction. 1927.
Pallenger—Diseases of the Nose, Throat, and Ear. 1930.
Arvedson—Mechanical Gymnastics and Massage in General Practice. 1930.
Graham—Surgical Diagnosis. 1930. v. 3 & Index.
Rolleston—Diseases of Liver, Gall-bladder and Bile Duct. 1929.
Bremer—Textbook of Histology. 1930.
Balyeat—Allergic Disease. 1930.
Seifert—Manual of Physical and Clinical Diagnosis. 1930.
Stephenson—Incompatibility of Prescriptions and How to Avoid It. 1929.
Ramsay—Eye in General Medicine. 1929.
Stuart-Low—Nasal Catarrh. 1930.
Cowdry—Human Biology and Racial Welfare. 1930.
Harris—Normal Facts in Diagnosis. 1930.
Smith—Practical Materia Medica. 1929.
Keeler—Modern Otology. 1930.
Light—Opium Addiction. 1929-30.
Corner—Anatomy. 1930.
Dawson—Beginnings in Medicine — Egypt and Assyria. 1930.
Power—Medicine in the British Isles. 1930.
Carrie—Les syndromes icteriques. 1930.
Hurst—Gastric and Duodenal Ulcer. 1929.
Pack—Burns. 1930.
Norris—Uterine Tumors. 1930.
Long—Selected Readings in Pathology. 1929.
Hewer—Introduction to Study of Nervous System. 1929.
Geraudel—Mechanism of the Heart Beat and Its Anomalies. 1930.
Alleman—Medical Interpreter. v. 12. 1929.
McLester—Nutrition and Diet in Health and Disease. 1930.

Respectfully submitted,

H. THEODORE SIMON, M. D.,
Secretary.

PERSONALS.

Dr. Chaillé Jamison and Dr. H. Theodore Simon spoke before the Lafourche Valley Medical Society at its meeting in Houma held during the month of September.

Dr. H. Theodore Simon was the guest of the Tangipahoa Parish Medical Society.

The following doctors from New Orleans attended the meeting of the American College of Surgeons in Philadelphia: Drs. C. Jeff Miller, J. T. Nix, Alton Ochsner, G. J. Taquino, Wm. A. Wagner, C. J. Tyrone and Urban Maes.

Dr. C. Jeff Miller was elected President of the American College of Surgeons.

Dr. Emmett L. Irwin read a paper before the Pike County Medical Society at McComb, Miss.

Your Editor is desirous of establishing a "Personal Column," and we would appreciate the membership sending in any facts of interests to the Associate Editor.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

THE HEALTH OF NEW ORLEANS.

For the past few weeks New Orleans's population has apparently enjoyed excellent health, and there has been during this time interval considerable reduction in the death rate in the city. The Department of Commerce, Division of Vital Statistics, reports that during the week ending September 27 there were 144 deaths in the city, 87 of whom were white, 57 of whom were colored, giving a death rate of 16.4, as contrasted with the death rate for the first 39 weeks of the year, 17.6. During the week ending October 4 the death rate fell to 15.3, it being 10 less deaths in the city than in the previous week. This death rate as contrasted with the corresponding week in 1929 is lower, last year the rate being 16.8.

DEATH OF GEORGE S. DAVIS.

Many of the older practitioners of the United States knew personally George S. Davis, to whom the house of Parke, Davis and Company holds its corporate name. Mr. Davis died October 1, at the age of 85. In 1871 he established, with Dr. Duffield, the firm of Parke, Davis and Company, and through his energy, enthusiasm, and organizability soon made this well known pharmaceutical house one of the greatest ones in this country.

UNITED STATES PUBLIC HEALTH SERVICE.

Past Assistant Surgeon L. W. Tucker has been relieved from duty at the Marine Hospital in New Orleans and assigned to duty in Toronto, Canada.

UNITED STATES CIVIL SERVICE COMMISSION.

Washington, D. C.

The United States Civil Service Commission announces the following named open competitive examinations:

Senior Medical Technician and Medical Technician in Bacteriology.

Senior Medical Technician and Medical Technician in Roentgenology.

Applications for senior medical technicians and medical technicians in bacteriology or roentgenology must be on file with the U. S. Civil Service Commission at Washington, D. C., not later than November 5, 1930.

The entrance salary for senior medical technician is $2,000 a year; and for medical technician $1,620 a year.

These examinations are to fill vacancies in positions of laboratorian and assistant laboratorian in the United States Veterans' Bureau.

GOVERNMENT HOSPITALS IN NEED OF MEDICAL OFFICERS, NURSES, AND SOCIAL WORKERS.

The United States Civil Service Commission states that Government hospitals throughout the country, including those under the Veterans' Bureau, the Public Health Service, the Indian Service, and other branches, are in need of medical officers and nurses of various grades, and that Veterans' Bureau hospitals have vacancies in positions of psychiatric social worker and junior social worker.

Full information regarding examinations, salaries, etc., may be obtained from the United States Civil Service Commission, Washington, D. C., or from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

MEETING OF THE STAFF OF TOURO INFIRMARY.

The regular monthly meeting of the Medical Staff at Touro Infirmary was held Wednesday, October 8, at 8:00 P. M. The first business on the program was the introduction of the new superintendent, Dr. B. C. MacLean, to the Staff. Dr. MacLean spoke for a few minutes outlining the plans that he had for the institution. Dr. H. B. Gessner then reported a case of medical

thyroid death, and was followed by Dr. R. T. Liles, who reported a case of tularemia and on a patient who had a fever of undetermined origin. Dr. A. J. McCloskey discussed a case of laryngeal foreign body and mastoiditis in infants. A general discussion followed concerning the deaths and autopsies that had occurred since the previous meeting of the Staff.

October 6, 1930, Professor Charles J. Bloom, of the Division of the Pediatrics in the Graduate School of Medicine of the Tulane University of Louisiana, addressed the Rapides Parish Medical Society at Alexandria, La., on the "Feeding Problems of Infancy and Childhood."

Dr. J. H. Musser will speak at the Missouri Valley Medical Association October 17, before the Omaha County Medical Society October 20, and the Inter-State Post Graduate Medical Assembly on October 23 in Minneapolis.

Dr. H. W. E. Walther, of New Orleans, delivered an address on October 30, before the Georgia Urological Association, in Atlanta, his subject being "Functional Disorders of Urogenital Origin."

Prof. Wm. A. Wagner of the Graduate School of Medicine of the Tulane University of Louisiana attended a meeting of the American College of Surgeons held at Philadelphia, Pa., October 11 to October 20, 1930.

ALVARENGA PRIZE

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about Three Hundred Dollars, will be made on July 14, 1931, provided that an essay deemed by the Committee of Award to be worthy of the Prize shall have been offered.

An essay intended for competition may be upon any subject in Medicine, but must be accompanied by a written assurance from the author that it has not appeared previously in print, either in whole or in part, in any form, and has not been presented elsewhere in competition for a prize. The essay should represent an addition to the knowledge and understanding of the subject based either upon original or literary research. It must be typewritten, and in English acceptable for publication without necessity for editing by the Committee. Any illustrations should be appropriate and correctly annotated with the text. Essays must be received by the Secretary of the College on or before May 1, 1931.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of competition that the successfull essay or a copy of it shall remain in possession of the College; and that it may be published by the author with the consent of the College; other essays will be returned upon application within three months after the award.

The Alvarenga Prize for 1930 has been awarded to Dr. Henry A. Harris, London, England, for his Essay entitled:

"Cod Liver Oil and the Vitamines in Relation to Bone Growth and Rickets."

JOHN H. GIRVIN, Secretary,
19 South 22d Street, Philadelphia, Pa., U.S.A.

The Bi-Parish Medical Society met with Dr. Glen J. Smith and staff in the East Louisiana State Hospital. Dr. L. F. Louis of Baton Rouge read an instructive and interesting paper on Throat Abscesses.

Dr. E. L. Irwin of New Orleans read an excellent paper on Acidosis.

The usual banquest was in the dining room of the Institution.

Dr. Irwin was elected as an Honorary Member of our society.

Our next meeting will be in Clinton, December 3, 7:30 p. m. Banquet in Rist Hotel.

GLEN J. SMITH, Pres.
E. M. TOLER, Secty.

PARISH MEDICAL SOCIETY ENTERTAINS DISTRICT MEDICAL SOCIETY.

Members of the St. Tammany parish Medical Society were hosts to the Sixth District Society in convention in Covington Thursday, and justly do they feel proud of the high-class manner in which the convention was conducted. Every one of the visiting doctors took it upon themselves to express their appreciation for the splendid arrangements made for their comfort and pleasure and for the spendid program outlined for the occasion.

The business session of the society was held at the Majestic Theatre where they convened at 10 o'clock and remained in session until 1 p.m. The program started with invocation by Rev. D. A. McNeil, followed by official welcome to the visitors from Mayor Charles H. Sheffield, after which routine business of the society was transacted. Dr. Tom Spec Jones, of Baton Rouge, president, presided, and Dr. W. K. Irwin, secretary, was at his post to record the proceedings of the meeting.

Mayor Sheffield and Rev. McNeil were honored by the doctors by being elected honorary members of their medical society.

The absence of Dr. H. D. Bulloch, one of the most active members of the society, was explained, he having been called away to hold an inquest. Dr. F. F. Young was also unable to attend on account of professional duties, and he so notified the society.

Baton Rouge was selected for the next spring meeting, and Jackson, La., designated as the place of meeting next fall.

The scientific program of the society was made up of three members of the profession, Dr. E. E. Laferty of Bogalusa, Dr. Chaille Jamison of New Orleans, and Dr. Herman B. Gessner of New Orleans. Dr. Lafferty prepared an elaborate paper on "Fracture of the Elbow in Children." His discussion of the subject showed a most careful study and he brought out many new points which were new to most of the doctors and from which they will no doubt profit. Dr. Jamison's subject was "Pneumonia." His lecture was illustrated with stereopticon pictures and the discussion was entered into by Drs. W. K. Irwin, Gessner, Lea and others. A most interesting address by Dr. Herman B. Gessner, president of the state organization, held the marked attention of the convention. He chose as his subject, "Something Is Wrong With the Practice of Medicine. What Is It?" This learned doctor handled his subject in a masterly manner and brought to the attention of the members some of their shortcomings as well as some of the very marked advances in the practice of medicine. Dr. Lafferty and several others entered into the discussion and brought out a number of interesting and instructive points.

During the business session a committee of ladies composed of Mrs. Lawrence R. Young, Mrs. H. E. Gautreaux and Mrs. L. Roland Young, took charge of the visiting ladies and entertained them with auto rides and bridge games. The visiting ladies were Mrs. McCaa of Baton Rouge, Mrs. B. O. LeBlanc of St. Gabriel, Mrs. W. R. Buffington of New Orleans, and Mrs. E. M. Robarbs and daughter of Jackson, La.

At the conclusion of business the doctors adjourned to the Southern Hotel dining-room where they heard an address by Hon. Lewis L. Morgan. A delightful luncheon was served the members and a few invited guests, comprised of the abovenamed ladies and L. L. Morgan, Mayor Sheffield, C. E. Schonberg, Rev. McNeil and H. K. Goodwyn, and the following doctors: M. O. Becnel, New Roads; B. O. LeBlanc, St. Gabriel; J. W. Lee, Jackson; Lester J. Williams, Tom Spec Jones, W. Kernen Irwin, Baton Rouge; F. R. Singleton, Slidell; G. McStewart, Covington; E. E. Lafferty, Bogalusa; W. R. Buffington, New Orleans; U. S. Hargrove, Baton Rouge; A. G. Maylie, Mandeville; John K. Griffin, Slidell; Laurence R. Young, Mandeville; W. L. Stevenson, Covington; R. B. Paine, Mandeville; J. H. McCaa, Baton Rouge; D. C. Brumfield, Darrow; T. H. Hanson, H. A. Folse, Donaldsonville; W. H. Hebert, F. F. Young, Covington; Glenn J. Smith, Jackson; Chaille Jamison, New Orleans; E. M. Robarbs, Jackson; J. H. Slaughter, Bogalusa; R. M. G. Carruth, New Roads; Hermann B. Gessner, Emmett Irwin, New Orleans; Rowland Young, H. E. Gautreaux, H. D. Bulloch.

INVITATION.

Through their Secretary, Dr. Leon S. Lippincott, the Issaquena-Sharkey-Warren Counties Medical Society of Mississippi invites the membership of the Louisiana Society to attend their joint meeting with the Fifth District Medical Society of Louisiana, to be held at Vicksburg, December 9, 1930.

Arrangements have been made for a large meeting, and the program includes such speakers as Dr. James G. Carr, Professor of Medicine at Northwestern University, and Dr. Virgil S. Counseller of the Mayo Clinic. It is hoped that many will avail themselves of the opportunity to attend this meeting.

JOURNAL COPIES.

The office of the New Orleans Medical and Surgical Journal is anxious to secure copies of the September, October and November, 1929 issues to replenish the supply of these issues in their files. Anyone having these issues will greatly assist the Journal by calling the office, RAymond 6361.

SOUTHERN MEDICAL ASSOCIATION MEETING.

The meeting of the Southern Medical Association is to be held in Louisville, Kentucky, November 11 to 14, 1930. The Louisville and Nashville Railroad is offering special service from New Orleans to Louisville on two trains, the Pan American and the New Orleans Limited. Two sets of reduced round trip fares have been authorized, one being $41.82, with a final return limit of November 20, and the other of $44.62, with a return limit of thirty days from the date of sale. Pullman fares are of course not included in this rate. The office of the road will be glad to furnish any other additional information.

FRENCH HOSPITAL.

The regular meeting of the French Hospital Staff was called to order on Friday, September 26, 1930, at 8:00 P. M., Dr. M. J. Lyons presiding. The minutes of the last meeting were read and approved. Those present were Drs. J. N. Ane, J. J. Baron, M. Campagna, L. L. Cazenavette, F. J. Chalaron, J. Daboval, F. Gallo, P. Graffagnino, E. N. Haller, W. Harris, F. J. Hartley, T. A. Jung, W. Lurie, M. J. Lyons, E. McCormac, F. A. Overbay, M. L. Stadiem, L. M. Thomason, and E. L. Zander.

Dr. E. L. Zander gave the reports of discharges and deaths for the month of August, 1930. Dr. Zander presented a case of "Tuberculous Menengitis" and Dr. Stadiem a case of "Hemorrhoids." Both of these deaths were discussed by the floor.

Dr. M. Campagna then gave a very interesting talk on the "Treatment of Pneumonia." Dr. Campagna confined his paper to the treatment of pneumonia by the anti-pneumococcic serum. He pointed out that only 8 per cent of fifty pneumonic patients died when treated with serum; whereas 28 per cent of fifty patients died when not treated with serum. The serum, he said, is injected intravenously and quite slowly. The results are that it is followed by a drop in temperature, the disappearance within the hour of toxic symptoms; the patient is in the hospital four to eight days less when treated with serum than otherwise and has a beautiful convalescence.

Dr. Zander next read a letter from Dr. Dudley Stewart asking for election to the Orthopedic service of the French Hospital Staff. The application was accepted by the Staff and referred to the Board for its approval.

Dr. M. J. Lyons asked that Staff members discuss at meeting any interesting cases occurring on their service. There being no further business the meeting adjourned.

EDWARD L. ZANDER, M. D.,
Secretary.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

L. S. Lippincott, Editor

H. L. Rush, Associate Editor *D. W. Jones, Associate Editor*

FROM OUR PRESIDENT.

MORE MEMBERSHIP.

As the end of the year approaches we should begin to size up the situation, to try to visualize the task that confronts us for 1931. Probably no State Association has ever reached the goal of 100 per cent membership and yet it is entirely possible, as is evidenced by the fact that several of our counties have reached that mark. It is simply a question of making the matter sufficiently attractive, so that everyone will find it to his advantage to join.

We have never really emphasized the advantages of membership. Quite generally the non-member is merely told that he "ought to join," "that it is his duty to support organized medicine," and no mention is made of the fact that the three tangible assets of membership in the Association—the defense feature, the Journal, and the services of the insurance bureau—are worth more, in dollars, than he can get anywhere else for the amount of dues they will cost him. If these things are fully explained, it will be the means of converting quite a number of non-members. The elderly man, especially, will find the insurance bureau a source of great satisfaction.

The County Secretaries will find these arguments of considerable service in getting in the membership, and where their individual appeal fails, should not hesitate to call to their assistance the other county officers and the councilors. In addition to this, the county societies are urged to call on the officers of the Association whenever they feel the need of them. By agreement, Dr. Patterson of Rosedale will be available in the first, second and fifth councilor districts; Dr. Hoyle of Meridian in the third, fourth and sixth; Dr. Polk of Purvis in the seventh, eighth and ninth. These gentlemen, the Vice-Presidents, are in charge of the work of organization, in which they have been given the full powers of the President. This is pioneer work for Vice-Presidents in our Association and it is hoped that the county societies will appreciate their enterprise and show it by calling on them freely and giving them plenty of work to do.

If there is anything shown by the survey we have just made it is that, with few exceptions, we have been resting on our oars in the matter of membership. For a number of years we have averaged slightly less than 1000 members. There are some 1450 eligible physicians in the State. If we would only half try, we could get ninety per cent of them—1300. The failure lies for the most part in the fact that we leave the matter too much to one man—the society secretary. One man cannot possibly do justice to the job in a society scattered over several counties. If the larger group societies are to continue, they must put other men to help the secretary—and they must be real workers, not just a lot of names on paper. They should be selected carefully, told just exactly what they are to do and made to report at every meeting. The secretary should analyze the lists and make his assistants show reasons why each and every eligible non-member in the jurisdiction of the society has not joined. Only recently I have had had occasion to watch this matter in one of the larger societies. It has a "membership committee." but that committee has made no report for three months. It is not surprising that this society is below the average in percentage of membership.

There is an old eastern proverb to the effect that "a shut mouth catcheth no flies"—but neither does it catch members, and that is what is most needed just now.

E. F. HOWARD.

EAST MISSISSIPPI FOUR COUNTY SOCIETY.

"At 9 P. M., October 1, Dr. Leslie V. Rush and Miss Katherine Brooks were married at the Central Methodist Church of Meridian. This was a very beautiful wedding, and our heartiest congratulations go out to this young couple.

"The East Mississippi Four County Society met at the Elks Club, Meridian, on Thursday, October 9. Dr. T. L. Bennett read a most excellent paper on syphilis. This paper was freely discussed by all those present. Dr. Kemp of the staff of the Mississippi Sanatorium, read a very delightful paper on tuberculosis. This paper was enjoyed by all the members present, and was very beneficial. A free and full discussion was had. Dr. Felix J. Underwood, the Executive Officer of the Mississippi State Board of Health, was present, and he discussed the awful death rate among the doctors in Mississippi during the past nine months. There have been 43 deaths, and over 50 per cent were less than 55 years of age, and 48 per cent died with either acute heart attacks or cardio-renal disease. This gives us something to think about, especially those of us who are going into the

fifties. We all need more rest, relaxation, and less responsibilities.

"I have been over the state considerably during the past six months, and it makes my heart ache to see the men breaking as they are now breaking. Why can't they take the same advice that they give their patients?

"It was the writer's very great pleasure to represent the president of the Mississippi State Medical Association at the meeting of the Winona Medical Society on Tuesday, October 7, at Durant. These gentlemen had a most excellent program, and every man on the program was there with his paper.

"After the scientific program was disposed of, the ladies of the Twentieth Century Club of this little city were the guests of this meeting, and they listened very intently to the paper of the writer on 'Organized Medicine,' and to the paper of Dr. Felix J. Underwood on 'Public Health Work.' If every town in the state had such active women in public health matters, our health programs would go over without any question, and our death rate from preventable diseases would be practically nil. These good women have taken the most advanced step and have had a Wassermann test made on every cook in this town, and those who were infected were treated, and today in the town of Durant there is not a cook who shows a positive Wassermann test. This is great work and I hope it will not be long before every city and town in the state takes up this work. I am especially grateful to the doctors of this society for the many courtesies shown me at this meeting.

"With the exception of Attala County, this Society is going over big. Dr. J. O. Ringold, the president, is very active and very energetic, and he promised a 100 per cent membership in the next few months. He has an able assistant in Dr. E. W. Holmes, the secretary. We feel that if the Attala County doctors will become a little more active, this will be one of the best societies in the state.

"Before this leaves your hands, I am sure that the death of Dr. S. H. Hairston will be chronicled. I have just left the hospital and he is practically pulseless, cold, clammy, and blue. It seems that it is only a matter of hours. Hairston is a wonderful fellow, very progressive, and one that will be missed. He has fought a good fight for eight long months, but it seems that with this wonderful fight, and with all the medical attention that he has had, nothing has been of any benefit. As he stated to his wife a few days ago when she asked him if he wanted any one else to see him, he calmly remarked that the damage had already been done, and nothing would help him. He will be sadly missed by his colleagues and the public in general.

"Dr. T. G. Cleveland is still resting after his heart attack of a few months ago.

"I am perfectly willing to accept the honor which one of the high officers conferred on me in the October issue of the Journal if the doctors of the state will give me enough to do in their birth activities. I do not want a position of this kind unless there is something to keep up with."

I. W. COOPER.

Dr. and Mrs. Phillip Beekman have returned from a two months' vacation spent in Atlantic City. Dr. Beekman was ill most of the time, but is now convalescent and will soon be in his office again.

WINONA DISTRICT MEDICAL SOCIETY.

Dr. E. W. Holmes, secretary, reports that the Winona District Medical Society met at Durant on Tuesday, October 7, at 1:30 P. M. The scientific program included the following:

1. Common Eye Trouble.—Dr. B. S. Guyton, Oxford.

Discussion opened by Drs. R. A. Clanton and E. C. Elmore.

2. Pyelitis.—Dr. G. Y. Gillespie, Jr., Greenwood.

Discussion opened by Drs. S. S. Caruthers and T. J. Brown.

3. Organized Medicine.—Dr. I. W. Cooper, Meridian.

4. Surgical Emergencies.—Dr. R. M. Stephenson, Lexington.

Discussion opened by Drs. J. K. Avent and T. W. Holmes.

JACKSON COUNTY.

"Nothing has happened in society work in Jackson County since June. At that time we had a good meeting with Dr. Toulman Gaines of Mobile making a most practical and beneficial talk on 'Skin Troubles That Worry the General Practioner.' We expect the December meeting to be better than we have been having.

"I hear that Dr. S. B. McIlwain will do postgraduate work in Memphis soon.

"The new Jackson County hospital will be finished at an early date and will be ready for patients by November 15.

"No doctor has been sick, died, moved, got married nor had a baby. Some of them may be getting rich, but if they are they keep it hidden."

J. N. RAPE,
Secretary.

CRAWFORD CLINIC.

SOUTH MISSISSIPPI INFIRMARY.

On October 15, Miss Charlotte Lewis, formerly assistant to Mrs. Korngold, Directress of Nurses at Touro Infirmary, New Orleans, assumed her duties as Directress of Nurses at the Crawford Clinic, South Mississippi Infirmary, Hattiesburg. Miss Lewis is a Vanderbilt University and a Vanderbilt Hospital graduate. She comes to the Crawford Clinic with enviable record.

Dr. H. G. Cook joined the staff of the Crawford Clinic on July 1. Dr. Cook is doing general medicine and is attached to the resident staff of the hospital.

Mr. Hamilton Crawford, Superintendent of the South Mississippi Infirmary, presented three papers before the recent meeting of the American Hospital Association, one on the "Problem of the Patient of Moderate Means," another, "Flat Rates," and the other, "Some Special Problems of Southern Hospitals."

DELTA MEDICAL SOCIETY.

Dr. C. W. Patterson, Rosedale, Vice-President of the Mississippi State Medical Association, writes as follows:

"I am mailing you a program of the meeting of the Delta Medical Society held at Belzoni, October 8, where we were entertained very royally after a very scientific program. Dr. E. R. Nobles, Rosedale, was elected President for the coming year.

"I turned in one application of a non-member and collected from two past members who had failed to pay up, and they were re-instaded.

"After an appeal to the members for their support and assistance in the drive for membership I had some very encouraging promises and believe that every one had the spirit in them from the manner in which those promises were given.

"The doctors in Bolivar County are complaining of the slowness in which the Top Crop is being harvested, and we are beginning to fear it is being used to pay the picking of the bottom. Of course, you know the top crop belongs to the doctor.

"Dr. C. C. Parnell, Pace, Miss., was the new member. Drs. E. R. McLain and J. P. Wiggins, Cleveland, were re-instated.

"Guests at the meeting included Drs. John Darrington, Yazoo City; W. H. Scudder, Mayersville, and A. W. Rhyne, Coahoma."

Dr. T. B. Lewis, Greenville, President of the Delta Medical Society, furnishes the following:

"The Delta Medical Society held its last semi-annual meeting at Belzoni, October 8, at 2 P. M.

"For some reason, most all of the essayists dwelt heavily on more careful and painstaking study of our cases before our diagnosis are made, at least suggesting that the improper diagnosis in an alarming number of cases was due not to vagueness of conditions existing, but to the very unscientific manner in which many examinations are conducted. They laid special stress on careful history taking and laboratory study, and brought out the fact also that laboratory findings would not always do to follow when clinical symptoms pointed differently. A liberal discussion emphasized all of these points and agreed that the subject was very timely.

"Dr. F. H. Hagaman, Jackson, gave us a splendid paper with roentgen-ray demonstrations of various fractures of the humerus, explaining the different forms of reduction and means of dressings.

"Dr. John Darrington, Yazoo City, was a visitor and joined in the discussion in his usual intelligent and jovial manner.

"The scientific program follows:

"1. The Religion of Truth.—Dr. J. N. Mecklin, Louise.

"2. Dagnostic Problems.—Dr. G. W. Eubanks, Greenville.

"3. Diagnosis in Rural Practice.—Dr. L. H. Hightower, Itta Bena.

"4. Chronic Appendicitis.—Dr. E. R. Noble, Rosedale.

"5. Fractures of the Lower End of the Humerus.—Dr. F. H. Hagaman, Jackson.

"At this meeting Cleveland was selected for the next meeting place, and the following officers were elected for the ensing year: President, Dr. E.

R. Noble, Rosedale; Vice-Presidents, for Bolivar County, Dr. Wiggins, Cleveland; for Sunflower County, Dr. J. W. Kent, Indianola; for Washington County, Dr. F. M. Acree, Greenville; for Leflore County, Dr. George Baskerville, Greenwood; for Humphrey County, Dr. Banley, Isola; Secretary, Dr. R. C. Finlay, Greenville; delegates to the meeting of the State Medical Association, Dr. G. Y. Gillespie, Jr., Greenwood; Dr. J. G. Archer, Greenville; Dr. U. S. Wasson, Moorhead; Dr. G. McM. Barnes, Belzoni; Dr. J. D. Simmons, Gunnison.

"After an excellent musical program, a splendid banquet was served at the Woman's Club with Hon. R. H. Nason as toastmaster."

"Dr. R. E. Wilson, Greenville, attended the meeting of the Central Pediatric Society at Memphis.

"Dr. A. G. Payne, Greenville, attended the recent meeting of the American College of Surgeons at Philadelphia.

"A special effort is being made at our meetings to enlist all eligible men possible in the State Association."

BUREAU OF COMMUNICABLE DISEASES.

The report of the Bureau of Communicable Diseases of the Mississippi State Board of Health for the month of August shows 161 cases of typhoid fever, 61 cases of diphtheria, and nine cases of small-pox. ALL PREVENTABLE DISEASES!

WARREN COUNTY HEALTH DEPARTMENT.

Dr. F. Michael Smith, Director of the Warren County Health Dpartment is in receipt of a report from the United States Public Health Service on the progress and benefits that have come to the people as a whole through the operation of the standard milk ordinance. This report contains a tribute to the State of Mississippi for progress made in milk work. Vicksburg was one of the first cities to adopt the standard milk ordinance and the Warren County Health Department has given special attention to the application of the requirements of the ordinance.

The report contains the following:

"During the past seven years the United States Public Health Service has been engaged in studies relating to milk sanitation. These studies had their beginning in response to a request from a State Health Department to formulate and assist in beginning the execution of a State-wide plan of milk control. The plan which has been developed by the United States Public Health Service has been so successful in improving the quality and in increasing the consumption of milk in the State in which it was first used that near-by States, one after another, have adopted the plan and called upon the Public Health Service for assistance, until now some 375 cities located in over 20 States have adopted the program.

"The results of the milk sanitation program in the State of Mississippi are of interest. The results so far obtaining in that State after two years' experience with the standard milk ordinance are as follows:

"There are now 26 cities, containing over 75 per cent of the State's urban population, enjoying a high-grade protection of their milk supplies, as against six cities formerly. The improvement in sanitary quality has been quite satisfactory; the retail raw milk has improved 91 per cent, the raw milk delivered to pasteurization plants 89 per cent, and the pasteurization plants 109 per cent. Milk consumption has increased 23 per cent. The number of cities having pasteurized milk has doubled, and the consumption of pasteurized milk has risen 117 per cent. With longer experience, stricter enforcement, and the adoption of the ordinance by more cities, an excellent milk supply for the whole state of Mississippi may be expected within a very few years."

PIKE COUNTY MEDICAL SOCIETY.

Dr. I. E. Stennis, Secretary, reports that the Pike County Medical Society met in the Palm Room of the McColgan Hotel, October 2, at 9 P. M., with 17 members present.

The Secretary read a letter from Dr. T. M. Dye, Secretary of the Mississippi State Medical Association, asking for a report of the members of this Society in regard to indemnity insurance,—who is carrying insurance, how much insurance, and what is the annual cost. This infomation is being gathered from the Societies of the State Association for Dr. E. F. Howard, President, who is making an effort to bring about a plan for indemnity insurance through the State Association.

The question of a full time Health Department for Pike County as presented by Dr. F. J. Underwood, Executive Officer of the Mississippi State Board of Health, at the Exchange Club luncheon on October 1, was discussed by Drs. T. E. Hewitt, B. J. Hewitt, M. D. Ratcliff, L. D. Dickerson, L. J. Rutlege, W. S. Lampton, Thomas Purser, S. P. Klotz, L. W. Brock and others.

Dr. L. D. Dickerson has just completed an addition to his hospital to be used for a pathological laboratory. It is understood that laboratory will be in operation within the next 30 days. The laboratory will be a fine addition for this part of the State as well as for the hospital.

McCOMB CITY HOSPITAL.

A meeting of the McComb City Hospital was held on September 22. Those present were Drs. L. D. Dickerson, M. D. Ratcliff, Gladys Ratcliff, Willis Cotten, R. H. Brumfield, Thomas Purser, E. M. Givens, and L. J. Rutlege.

Dr. M. D. Ratcliff and L. J. Rutlege presented a report of a surgical case in which a mass filled the pelvis and extended nearly to the umbilicus. At operation this proved to be a ruptured appendix.

A tuberculosis clinic was held in Macon, under the direction of the National Tuberculosis Association during October. Free examinations were given to children and others. The clinic was held in co-operation with the Sanatorium.

COUNCILOR APPOINTED.

Following the resignation of Dr. E. M. Gavin as Council of the Seventh District of the Mississippi State Medical Association, Dr. E. F. Howard, president, has appointed Dr. J. E. Green, Richton, to fill the vacancy until the next meeting of the Association.

FROM OUR SECRETARY.

"Drs. T. G. Hughes and J. W. Henderson are grandpas!" Attention Dr. Cooper.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

The regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held on October 14, at the Y. M. C. A., Vicksburg.

The dentists of Vicksburg had been invited to be the guests of the Society at this meeting and Drs. A. G. Tillman, Jr., Harris Bell, T. B. Davis, and George V. Abraham were present. Dr. Rex Goodman, Cary, was also a guest of the Society.

Dr. A. G. Tillman, Jr., presented a paper on "Malocclusion of the Teeth and a Plea for Early Diagnosis and Treatment." This paper was discussed by Drs. H. H. Haralson, Vicksburg; T. B. Davis, Vicksburg; R. H. Foster, Anguilla, F. M. Smith, Vicksburg; G. M. Street, Vicksburg; Harris Bell, Vicksburg; E. H. Jones, Vicksburg; G. C. Jarratt, Vicksburg; W. H. Scudder, Mayersville; E. F. Howard, Vicksburg; G. W. Gaines, Tallulah, and P. S. Herring, Vicksburg.

Dr. Tillman exhibited a large number of plaster casts to illustrate the various phases of malocclusion.

Dr. Haralson introduced an amendment to the By-Laws to provide for the regular meetings of the Society to be held at 7 P. M. instead of 7:30 P. M. as at present.

The meeting closed with a dutch lunch.

A special called joint meeting of the Issaquena-Sharkey-Warren Counties Medical Society and the Mayor and Commissioners of Vicksburg was held on September 17, to discuss the needs of the Warren County Health Department.

ABERDEEN HOSPITAL.

Dr. James M. Acker, Jr., reports that the Staff of the Aberdeen Hospital meets monthly on the second Thursday in each month. The staff is composed of Drs. Charles Davis, G. T. Tubb, W. W. Bryan, L. W. Darracott, E. K. Guinn, R. M. Boyd, J. A. Dillworth, J. B. Sims, L. A. Crosby, N. S. Dickson, and J. M. Acker. Dr. J. M. Acker is president and Dr. N. S. Dickson is secretary of the Staff. Miss Elizabeth Nisbet is superintendent of the hospital.

The Aberdeen Hospital is owned by the City and operated by a stock company composed of citizens. It is under the management of three trustees. C. C. Day, Julian Evans, and W. B. Watkins. The hospital is in its fifth month of operation and is doing a great work.

The next meeting of the North-East Mississippi Thirteen Counties Medical Society will be held in Aberdeen on Tuesday, December 16.

JACKSON INFIRMARY.

At a recent meeting of the Staff of the Jackson Infirmary, officers for the coming year were elected as follows: Chief-of-Staff, Dr. George E. Adkins; secretary, Dr. Noel C. Womack.

Plans were made for better programs for the coming year. Plans were also perfected and instructors announced for the training school for nurses.

INFECTIOUS DISEASES.

The new marginal perforated case report cards of the Mississippi State Board of Health carry diphtheria, scarlet fever, typhoid fever, small-pox, tuberculosis, poliomyelitis, meningococcic meningitis, malaria and pellagra as the diseases to be reported on individual case report cards. Asiatic cholera, diphtheria, meningococcus meningitis, acute poliomyelitis, bubonic plague, smallpox, typhoid fever, yellow fever, whooping cough, and scarlet fever must be reported by card or telephone within ten to 24 hours.

EIGHTH COUNCILOR DISTRICT MEDICAL MEETING.

A special joint meeting of the County Societies of the Eighth District of which Dr. J. W. D. Dicks, Natchez is councilor, was held at Brookhaven on October 7. The Eighth District comprises the counties of Adams, Amite, Copiah, Franklin, Jefferson, Lawrence, Lincoln, Pike, Walthal, and Wilkinson.

After a delightful luncheon served in the dining hall of Whitworth College, the scientific program included the following:

1. Address—The State Association and its Component Societies.—Dr. E. F. Howard, president, Mississippi State Medical Association.

Dr. Howard explained the organization of the State Association and its component county societies and made a strong plea for including in their membership every reputable white physician in the State.

2. Chairman's Address.—Dr. J. W. D. Dicks, Natchez.

3. The Treatment of Benign Lesions of the Cervix Uteri.—Dr. William T. Black, Memphis, Tennessee.

Discussed by Drs. L. B. Dickerson, McComb, and J. S. Ullman, Natchez.

4. Functional Disorders of the Gastro-Intestinal Tract.—Dr. James S. McLester, Birmingham, Alabama.

Discussed by Drs. W. H. Frazell, Brookhaven; L. S. Gaudet, Natchez, and E. F. Howard, Vicksburg.

5. The Treatment of Leg Ulcers.—Dr. H. R. Shands, Jackson.

Discussed by Drs. O. N. Arrington, Brookhaven, and A. B. Harvey, Tylertown.

Dr. Shands demonstrated the treatment of leg ulcers and varicose veins before the meeting.

This district meeting was such a success, that it was voted to hold a similar meeting each year, and a committee composed of Councilor Dicks and the presidents and secretaries of the various societies of the district was appointed to make arrangements for the meeting in 1931. Dr. L. S. Gaudet, president of the Homochitto Valley Medical Society, invited the District to hold the next meeting in Natchez. Dr. O. N. Arrington served as secretary and was in charge of arrangements for this year's meeting.

VICKSBURG SANITARIUM.

The regular monthly meeting of the Staff of the Vicksburg Sanitarium was held on October 10. Following a business meeting and the reports from the records department, the following special case reports were presented:

1. Varicose Veins of the Broad Ligament.—Dr. G. M. Street.

2. Dermoid Cyst of the Ovary.—Dr. A. Street.

3. Malignancy of the Gum.—Dr. J. A. K. Birchett, Jr.

4. Gout—Report of Several Cases.—Dr. L. J. Clark.

5. Ileo-Colitis.—Dr. G. C. Jarratt.

Interesting radiographic studies of the following conditions were demonstrated: Maxillary sinusitis, pneumonia, lipiodol in bronchi, ureteral calculus (two cases), fracture of both femurs, fracture—dislocation of ankle, epiphyseal separation of radius, fracture of radius, multiple fractures of pelvis—end results, bone cyst of phalanx, metastatic carcinoma of bones of pelvis, subdeltoid bursitis.

NORTHEAST MISSISSIPPI THIRTEEN COUNTY MEDICAL SOCIETY.

Dr. Kenneth F. McRae, Belmont, reports:

"The Northeast Mississippi Thirteen County Medical Society held its third quarterly meeting at City Hall, Corinth, Sept. 16. There was good attendance, splendid papers and interesting discussions on the following subjects:

Uterine Hemorrhage by Dr. V. B. Philpot.

The Anemias by Dr. J. S. McLester, Birmingham, Ala.

Organized Medicine by Dr. M. J. L. Hoye, vice-president, Mississippi State Medical Association.

Hospitals, Nurses, and Health by Dr. F. J. Underwood, executive officer, Mississippi State Board of Health.

"Dr. H. L. Scales could not be present, much to our regret.

"Visiting doctors: J. S. McLester, Birmingham, Ala.; M. J. L. Hoye, Meridian; C. D. Mitchell and F. J. Underwood, Jackson; H. C. Rudner; C. W. Blasengame, R. C. Bunting, Lucius McGhee, Lyle Motley, and Whitman Rowland, Memphis, Tenn., and several others from nearby towns in Tennessee.

"After the scientific program was over all repaired to the high school building where an hour and a half was delightfully spent in feasting and speech making, interspersed with songs and instrumental music. Verily the people of Corinth are royal hosts.

"Our next and last meeting for the year will be at Aberdeen, December 16.

"Dr. A. F. Whitehurst of Iuka, an active and hard working member of the profession, having been disabled by serious illness for three weeks, has gone to Memphis for treatment."

JOINT MEETING AT VICKSBURG—AN INVITATION.

The Fifth District Medical Society of Louisiana and the Issaquena-Sharkey-Warren Counties Medical Society will hold a joint meeting at Vicksburg, Tuesday, December 9, at 6 P. M. The program thus far arranged includes addresses by Dr. James G. Carr, Professor of Medicine at Northwestern University, Chicago, and Dr. Virgil S. Counsellor, of the Surgical Section of the Mayo Clinic, Rochester, Minn.

A general and most cordial invitation is to be extended to every member of the Louisiana State Medical Society and of the Mississippi State Medical Association. Make plans now. The new bridge and the new roads in Louisiana are open. Banquet at six o'clock!

Dr. W. H. Parsons, Vicksburg, has been elected a Fellow of the American College of Surgeons.

DR. E. B. FRENCH.

"Dr. E. B. French, McComb, died suddenly, October 10, at 11:50 A. M. Dr. French was on a professional call when the grim messenger called for him. Dr. French was born near Port Gibson, on October 13, 1885.

"Dr. French received his B. S. degree from the Mississippi A. & M. College in 1907 and was awarded his M. D. degree from Tulane University, New Orleans in 1911. After graduating from Tulane he entered the Chamberlain Sanitarium at Natchez, as house surgeon. Here he remained for several years.

"On October 1, 1913, he was married to Miss Almira Pardee of Natchez. He remained in Natchez until 1923 when he moved with his family to McComb. He is survived by his widow and two sons, Eugene, 16, and Robert, 13, his aged mother, Mrs. E. B. French, Sr., of Brookhaven, and two sisters, Mrs. S. B. McNair, Brookhaven, and Mrs. A. S. Kilpatrick, Pass Christian.

"Dr. French was Senior Warden in the Episcopal Church in McComb; also a member of the McComb Masonic Lodge, No. 382, and a member of the Woodmen of the World. He was the past president of the Tri-County Medical Society. He was also a member of the Pike County Medical Society, with headquarters at McComb.

"Funeral services in McComb were in charge of Rev. E. G. Maxted, rector of the Episcopal Church, October 11, at 10 A. M. The body was then carried to the home of F. M. Pardee, brother of Mrs. French at Natchez, where brief rites were held at 3 P. M. followed by interment in Natchez cemetery.

"Dr. French was widely known and loved throughout South Mississippi, not only as a physician, but as a citizen also. He always met you with a word of good cheer, kindness and encouragement, rather than the reverse. The writer remembers an incident that will illustrate what he is trying to say. At a meeting of the Pike County Medical Society, on May 1, 1930, the secretary was instructed to send a bouquet of flowers to Dr. J. M. Curtis, Summit, who had been elected an honorary member of the Society, and who had been confined to his bed for several months from an illness that proved fatal during the latter part of May. The flowers were just an expression of kindness and courtesy from the Society. After the meeting had adjourned, Dr. French came to the secretary and said that if the secretary had no way of getting the flowers to Dr. Curtis, that he, Dr. French, would call at the florist's the following night and drive to Summit and deliver them to the doctor. The secretary arranged for the flowers, Dr. French delivered them. At the next meeting Dr. French reported to the Society how very much Dr. Curtis appreciated and enjoyed the flowers.

"He seemed to find a great deal of pleasure in giving pleasure to others, a human trait, that, if more plentiful, would make the world much better.

I. E. STENNIS, Secretary.
Pike County Medical Society.

McComb, Miss., Oct. 15, 1930.

BOOK REVIEWS

The International Medical Annual. New York, Wm. Wood & Co. 1930. pp. 598.

This work purports to review the treatment of disease both surgical and medical. The introduction by the editors is an excellent retrospect of the work accomplished in the past year. The material is alphabetically arranged and is excellently compiled. References are attached to each subject discussed. There is a complete index to the book. It is a most worth-while reference book and will greatly help to clarify the real progress for the year in each branch of medicine.

I. L. ROBBINS, M. D.

A Text-Book of Histology: By J. Lewis Bremer, M. D. 4th ed. Philadelphia, P. Blakiston's Son & Co. 1930. xi+568 pp., 486 figs.

The fourth edition of this work needs no introduction, since it is already favorably known and recognized as a standard text-book in the field. In comparison with the preceding edition (1927) it is to be noted that the chapters dealing with connective tissues, blood, nervous tissue and the liver have been extensively revised. A further improvements consists in the increase in the number of references to original literature.

HAROLD CUMMINS, Ph. D.

Clio Medica III. Anatomy: By George W. Corner, M. D. New York, Paul B. Hoeber, Inc. 1930. xvii+82 pp., 8 figs.

A series of primers on the history of medicine, issued under the general title of "Clio Medica," is being prepared with the editorship of Dr. E. B. Krumbhaar. "Conveniently small and inexpensive, yet prepared by recognized authorities in their chosen field, each volume will aim to present the story of some individualized phase of the history of medicine in such compact, connected, convincing and reasonably complete form that the medical undergraduate, the specialist, the busy general practitioner and the 'intelligent layman' will be attracted to a few hours' reading, which in many cases will doubtless prove the introduction of an awakened interest to a more comprehensive study."

The present volume appears as the third and latest number of the series. To outline the development of anatomical science from the time of the Greeks to the present day, within the limits of so small a volume, requires much elimination; a sure sense of relative values is necessary for the creditable accomplishment of this selection. It is necessary also to meet the all too common attitude that neither history nor anatomy is interesting (and the combination deadly!) with a manner of presentation which will attract and hold the reader. Dr. Corner's judgment in selection of material and his style, which enlivens both history and anatomy, make of this volume an assured fulfillment of the aim of "Clio Medica" within the field which it covers. It would be well if every student were to read the history while engaged in the study of anatomy, that we may have an early appreciation of how a medical science progresses.

HAROLD CUMMINS, Ph. D.

Uterine Tumors: By Charles C. Norris, M D. New York, Harper & Bros. 1930. pp. 251.

This is a most compact and practical monograph—splendid book for practitioner and student.

JOHN F. DICKS, M. D.

Allergic Diseases: Their Diagnosis and Treament: By Ray M. Balyeat, M. D., F. A. C. P. 3d ed. Rev. and enl. Philadelphia, F. A. Davis Co. 1930. pp. 395.

Dr. Balyeat presents in summary form, and in pleasing style, the facts concerning allergic diseases. The pollen surveys of different cities and sections of the country are particularly interesting. This book specially recommends itself to students and physicians who wish to acquaint themselves with this subject.

There are all too few volumes dealing with this important phase of medicine, and on the whole Dr. Balyeat's book is a good addition to the literature. There is an index, but no bibliography.

B. GELFAND EFRON, M. D.

The Carlsbad of America: By William Edward Fitch, M. D. Bedford Springs, Penn. 1929. pp. 302.

This unique little book is made up of twelve brochures published consecutively from July, 1928, to and including June, 1929, then added thereto two on Sciatica and Myofascitis, and another in 1930 on Putrefactive Intestinal Toxemia.

The book is well written and gives valuable information that will prove helpful to those inclined to continue the use of the oldest therapeutic remedy, "water," yet acknowledge to be the most efficacious of any known remedy when properly administered, internally or by external application. Water is one of the most efficient of all remedies in combatting conditions which give rise to high blood pressure. It has given marvelous results in the relief of pain and for this it should be more universally used instead of so quickly resorting to anodynes.

The book is well worthy of review and will prove helpful and convincing to the practitioner of medicine.

OSCAR DOWLING, M. D.

Injuries to Joints: By Sir Robert Jones, Bart., K. B. E., C. B. 3rd ed. London, Oxford Univ. Press. 1930. pp. 195.

This small book of 192 pages, the first edition of which came out in 1915 was originally written as a war manual. It found such wide favor that it has appeared in many editions since; the third edition being published in March, 1930.

Everyone who knows Sir Robert Jones, realizes that everything he reads in this book is based on knowledge and good judgment. It contains as much or more meat, than any book of its size that I know of.

The chapters on pain and stiffness in relation to diagnosis, and treatment, and the chapters on contraction of scar tissue, are of extreme interest. The book can be read with profit by every general practitioner, as well as the man interested in bone and joint surgery.

EDWARD S. HATCH, M. D.

A Text Book on the Nursing and Diseases of Sick Children: Edited by Alan Moncrieff, M. D., B. S., M. R. C. P., Lond. New York, G. P. Putnam's Sons. 1930. pp. 580.

This text book is written by several English contributors, who are staff members at the Hospital for Sick Children, Great Ormond street, London. Although written by several authors, the editor has exercised his privilege to the extent of preserving almost perfect continuity of style throughout.

The newer principles and methods are incorporated in this book. The suggested therapy is sensibly conservative. The volume contains a vast amount of practical information for everyone concerned with pediatrics.

Possibly the most damaging criticism that might be made is, that the medical aspects of pediatric nursing are somewhat abbreviated and have been sacrificed considerably at the expense of rather extensive description of surgical procedure, which is not at all times of interest from a pediatric viewpoint.

The book would be of more value to the hospital nurse than it would to the welfare, or public health nurse. It would serve better as a reference work on certain phases of pediatric nursing than it would as a standard text for undergraduate instruction.

C. T. WILLIAMS, M. D.

Text Book of Histology: By Alexander A. Maximow; completed and edited by William Bloom. Philadelphia, W. B. Saunders Company. 1930. xiii+833 pp., 604 figs.

Rarely indeed does there appear a text book of real distinction, such as that of Maximow's text in histology. It embodies a dynamic approach to microscopical anatomy; it treats of living tissues at work as well as the conventional descriptive material. The text forces the student, who all too frequently considers histology to be mere description of structure, to recognize the interrelationships of histology, physiology and pathology. Being placed early in the medical curriculum, histology will therefore supply, as it should, a fitting introduction to the modern viewpoint in medicine. The work is succinct and clear. An abundance of instructive illustrations, many of which are from original drawings by Maximow, forms a feature worthy of special notice. At Professor Maximow's death, in 1928, the manuscript was unfinished. Dr. Bloom, who has brought the book to completion, is to be commended for undertaking a task so difficult as finishing a book begun by another. His success in the project is outstanding.

HAROLD CUMMINS, Ph. D.

A Text Book of Histology: By Harvey Ernest Jordan, A. M., Ph. D., New York, D. Appleton & Company. 1930. xxviii+852 pp., 594 text figs.+52 figs. in 4 pls.

This is the fifth edition of a widely used standard text. "Progress in many directions since the publication of the fourth edition has made desirable various textual changes and additions, particularly in the chapters on blood and the endocrine tissues. The text has been thoroughly revised, and a number of new illustrations have been added."

HAROLD CUMMINS, Ph. D.

Text Book of Anatomy and Physiology: By Elizabeth R. Bundy, M. D. 6th ed., rev. and enl. by S. Dana Weeder, M. D. Philadelphia. P. Blakiston's Son & Co., Inc. 1930. xiii+446 pp., 266 figs.

New edition of a text of merit, designed especially for use in the nurses' training school but adapted also to the instruction of elementary anatomy and physiology for classes in physical education.

HAROLD CUMMINS, Ph. D.

Physical Diagnosis: By Richard C. Cabot, M. D. 10th ed., rev. and enl. New York, Wm. Wood & Co. pp. 529.

The mere fact that this is the tenth edition attests the continued popularity of this work. This

book cannot possibly be praised too highly, the clear, concise selection of everything essential to the subject and the omission of everything not actually necessary.

The plates, diagrams and illustrations are unsurpassable. The more important new matter introduced relates to coronary disease and the real value of an electrocardiographic examination, electrocardiography, cancer of the lung, "cardiac asthma," hepatitis, and encephalitis.

The references to the Gamble-Cabot cardiac diagnosis records, which unfortunately do not accompany the book may be had from your phonograph dealer.

The sections on laboratory methods of diagnosis have been revised and brought up to date.

J. L. LOCASCIO, M. D.

Tropical Medicine in the United States: By Alfred C. Reed, M. D. Philadelphia, J. B. Lippincott Co. 1930. pp. 399.

In this volume the author has attempted to justify the presentation of a special handbook on Tropical Medicine for physicians in the United States. He defines tropical medicine as "the alleviation, cure and prevention of disease . . . and preservation of mental and physical health . . . in hot climates." He states what is obviously true, "that a surprisingly large area of the United States falls within the boundaries of hot climate . . . In the United States many tropical diseases are endemic and serious, such as, for example, hookworm infection, malaria, amebiasis, bacillary dysentery, sprue, pellagra and plague." In addition, he names other diseases which are sporadic in their incidence or of occasional occurrence in the United States. He argues further, that the physician in this country, whether residing in the South or in the North, is likely to come in contact with one or more of these types of infections and should be sufficiently informed to handle the case intelligently.

A careful study of Professor Reed's book indicates that there is justification for such a volume. However, the reviewer has been disappointed in the subject matter presented and feels that it can hardly be recommended for the practicing physician in this country. In the first chapter ("Protozoal Diseases") the subject of amebiasis is first taken up. This infection is considered by the author to be always a serious one whether the individual shows active symptoms or is merely passing encysted amebae. In view of the more recent studies in the Southern United States and in the tropics, indicating that a very high percentage of these populations carries this infection, whereas at autopsy only a relatively small percentage show amebic lesions of the large bowel or other viscera, it is not possible to accept Professor Reed's thesis. Furthermore, the treatment which he recommends is so drastic that in the majority of cases the patient would be better off without the treatment. The subject of malaria is treated much more conservatively. Short sections are devoted to the leishmaniases and to the flagellate protozoa of the intestine and to *Balantidium coli*. The reviewer sees no reason why three full pages should be devoted to coccidial infections, since there is adequate evidence that these parasites are of no serious consequence. It is unfortunate that the subject of rabies should be wedged in between intestinal protozoa on the one hand and Chagas disease on the other.

The second chapter on "Spirochetal Diseases" calls for no special comment, save that it seems to be given too little space. The third chapter includes the unrelated subjects of bacillary dysentery, plague, undulant fever, leprosy, cholera, tularemia and Oroya fever. It seems that some other arrangements migth have easily been found whereby these subjects could have been better grouped.

Chapter 4 includes the helminthic diseases, filariasis (Bancroft's, Calabar swelling, guinea worm disease and onchocercosis), hookworm disease, other round worm infestations, tapeworms (including hydatid disease), the schistosomiases and other trematode infections. Chapter 5 includes "Diseases of Unknown Etiology" under which are presented yellow fever, dengue, sandfly fever, the typhus fever group, Rocky Mountain spotted fever, trench fever, sprue, goundou, ainhum, inguinal granuloma, climatic bubo and tropical phagedena. Here again it seems that some better arrangement of the subject matter might have been effected. Chapter 6 is devoted to mycotic diseases; chapter 7 to metabolic diseases; chapter 8 to diseases caused by arthropod parasites; and chapter 9 to miscellaneous infections. In this last chapter the matter of personal hygiene and tropical climatology are briefly presented.

The references are poorly chosen and do not represent well chosen or selected lists for the reader. Altogether the reviewer feels that the author has failed to present a volume which can be used by the general practitioner without modification or qualification. Lack of familiarity with the scientific nomenclature of the organisms causing the infections presented in this book has been a serious handicap to the author. Likewise certain erroneous statements are made such as, for example (page 218), the assertion that the rat flea serves as the intermediate host of the dwarf tapeworm, *Hymenolepis nana*. It is also extremely unfortunate that the author has followed so closely

British usage in presenting his subject matter, rather than exercising an independence which greater familiarity with the material would have allowed.

The book is well printed, typographical errors are few and there are some good clinical pictures.

ERNEST CARROLL FAUST, Ph. D.

Tropical Medicine: By Sir Leonard Rogers, C. I. E., M. D., B. S. (Lond.), F. R. C. P., F. R. C. S., F. R. S., and John W. D. Megaw, C. I. E., V. H. S., B. A., M. B., B. Ch., B. A. O. Philadelphia, P. Blakiston's Son & Co., Inc. 1930. pp. 525.

This volume on tropical disease is a most valuable addition to our present knowledge of the subject. The authors have both had several decades of experience in direct contact with a tremendous amount of tropical diseases in India and their viewpoint is both safe and sound.

The book is well organized and the divisions of the subject matter well presented. The first section, entitled "Febrile Diseases caused by Protozoa," covers the subject of malaria (including black water fever), kala azar, the trypanosome infections, and "febrile amebic hepatitis and liver abscess." The second section includes "Febrile Diseases Caused by Spirochaetes," while the third section embraces "Febrile Diseases of Uncertain Origin." The fourth section takes up the typhus fever group of diseases and is very adequately handled. Section V presents "Bacterial Febrile Diseases," including plague and undulant fever.

Section VI includes amebic dystentery, bacillary dystentery, cholera, hill diarrhea, and sprue, in other words, "Bowel diseases with symptoms of dysentery and diarrhea." The next section (section VII) includes those infections in which the most prominent lesions are superficial in type, namely, leprosy, yaws, oriental sore, inguinal granuloma, tropical ulcer, the dermato-mycoses, etc.

In section VIII the important helminthic diseases, ancylostomiasis, filariasis and schistosomiasis, are adequately presented, while in section IX there are found those "Diseases Caused by Venemous Animals." Section X deals with deficiency diseases, including the beriberi group, pellagra and lathyrism. The concluding group of chapters (section XI) include a consideration of those "Diseases Caused by Heat and Light."

There are a few errors and omissions which may well be corrected in a future edition, as for example (page 18) the statement that *Anopheles maculipennis* is the great carrier of malaria in North America. Apparently the authors have failed to note the role which *A. quadrimaculatis* plays in the spread of malaria in the Southern United States. On page 401 the discovery of the life cycle of *Schistosoma japonicum* is given for the year 1923, whereas it should have been 1913; likewise the work of Professor Leiper in Egypt was in 1915 rather than in 1925. On page 404 the group of illustrations (from Faust, Leiper and other sources) has not been acknowledged.

The book is beautifully printed and bound, well illustrated and well indexed. While it will appeal primarily to the workers in tropical medicine in India, it is also a most valuable reference book for persons interested in the subject in other parts of the world.

ERNEST CARROLL FAUST, Ph. D.

Varicose Veins; With Special Reference to Injection Treatment: By H. O. McPheeters, M. D., F. A. C. S. 2d ed., rev. and enl. Philadelphia, F. A. Davis Co. 1930. pp. 233.

This splendid small volume—the second edition in a little less than five months—is a comprehensive presentation of the modern treatment of varicose veins by the injection method.

The book has been somewhat enlarged, and the chapter on Pathology and Biopsy Sections is most interesting and thorough.

It is written in a clear, concise, readily understandable manner and recommends itself to those who are particularly interested in this type of treatment.

The general technique is much the same as in the previous edition, with some slight modifications incident to greater experience.

A separate chapter has been put aside for the Trendelenburg test, both as to its demonstration and clinical application.

The book is well illustrated and is recommended as the best presentation of this subject yet written.

WALDEMAR R. METZ, M. D.

Rickets, Osteomalacia and Tetany: By Alfred F. Hess, M. D. Philadelphia, Lea & Febiger. 1929. pp. 485.

One of the astonishing things about the study of rickets is that, notwithstanding the fact that it is one of the earliest nutritional and metabolic disturbances to be recognized, most of the accurate information which we have concerning its etiology and treatment has been acquired as a result of studies made within the past ten years.

This newer knowledge has been obtained almost entirely through animal experiments in the biological laboratory and as a result of the discovery that the lack of ultra violet light or energy plays a dominant role in the causation of rickets. The

name of the author of this book has been associated constantly with these studies and a large proportion of our newer knowledge can be attributed to experimental work which he has either done or directed. It therefore seems particularly appropriate for him to correlate the information which has come from the studies of the past decade. In fact, those who have kept up with the advances which have been made have been waiting for him to write this book. No one is more thoroughly qualified than he is.

There are fifteen chapters in the book. The first eleven discuss the history, distribution of rickets and the experimental work which has led to the more clear understanding of the etiology, pathogenesis, pathology and symptomatology of rickets. The author also includes the radiographic signs which are at the present time regarded as being so important in the discovery or rickets which is otherwise undetachable.

In the last four chapters the author describes juvenile rickets, osteomalacia and tetany. The fifteenth chapter is devoted to the all important subject of prevention and treatment.

The style of the author is unusually clear and the impression is gained that he has compressed a maximum amount of information concerning the "Newer Rickets" into a minimum amount of space.

The publishers seem to have given careful consideration to the typography of this book so that the reader is helped to comprehend the thoughts of the author by a particularly legible type face. To this book is appended an extensive bibliography which is classified. A well prepared index enables the reader to use it as a ready reference work.

This book may be regarded as an authoritative work by an author who has earned the reputation as an authority on rickets.

ROBERT A. STRONG, M. D.

Le Rachitisme: Etiologie — Pathogenie — Treatment. By A. B. Marfan. Paris, Gaston Doin et Cie. 1930. pp. 50.

Of the French pediatrists who have come into prominence during the past generation none have enjoyed the confidence of the American pediatrists more than Professor Marfan. His contributions to the study of pediatrics in all of its phases have established him as an outstanding authority not only in France but in the pediatric world. At a time when our newer knowledge of rickets has reached a point where it should be correlated there is probably no better qualified man to undertake this for the French-speaking pediatrists.

This work opens up with a very liberal discussion of the cause of rickets and Professor Marfan takes the occasion to discuss freely the part that syphilis, tuberculosis and other "intoxications chronique" play in the production of rickets. Of this theory, he has long been a great exponent. He describes a syphilitic type of rickets in which the symptoms are very much exaggerated with exceptional involvement of the cranial bones and accompanied by anemia and an enlarged spleen. He also believes that 25 per cent of rickets is due to tuberculous infection. To support his own observations in this connection he quotes the studies of his confreres, Parott and Fournier. These stories, however, have not received widespread support in America and England.

In addition he considers that rickets is more commonly found among artificially fed children, although he recognizes and subscribes to the rapidly increasing belief that breast feeding affords no protection against rickets.

Professor Marfan also devotes considerable space to the relation of rickets to chronic diarrhea, coeliac disease and chronic digestive disturbances. He also believes that the infants of eclamptic mothers are frequent victims of rickets. After reviewing the foregoing theories he discusses the work which has been done by Huldschinsky in Germany and Hess and Steenbock in America on the effects of the ultraviolet irradiation in the prevention and cure of rickets. The studies of Hess, Steenbock, Kramer, Windaus and Rosenheim which led to the selection of ergosterol as the ideal sterol for irradiation are next discussed. The remainder of this brochure is devoted to the application of the now widely recognized methods of preventing and treating rickets. There are several illustrations and descriptions of the use of the vapomercury quartz lamp in individual cases and to large groups of children.

Professor Marfan has covered in a most comprehensive way the newer knowledge of rickets for the French-speaking physician.

ROBERT A. STRONG, M. D.

Affections of the Eye in General Practice: By R. Lindsay Rea, B. Sc., M. D., M. Ch., F. R. C. S. Philadelphia, Lea & Febiger. 1930. pp. 155.

A second ophthalmic volume for the general practitioner comes to us in a year from England. The large number of more or less isolated colonial physicians apparently create a greater demand for books of this sort in Britain than here.

The author has described the fundamentals of ophthalmology very creditably in about one hundred and fifty pages.

Some of Dr. Rea's views and methods differ sufficiently from ours to justify mention.

"In senile ectropion there is no need to think of operation. The simple painting every second day of the swollen conjunctiva with zinc sulphate 2½ grs. to the ounce, the patient using a much weaker zinc solution several times a day will completely restore the lid to its natural position."

Because of its osmotic action, 10 per cent magnesium sulphate solution used with an eye bath is suggested in the treatment of gonorrheal ophthalmia.

Treatment in congenital lues does not change a positive Wassermann to a negative. Weekly intravenous injections of novarsenobillon are preferred in interstitial keratitis. In a child of ten years, the initial dose is .12 gm. and increased to .3 gm. After twelve injections, a course of mercury is given. Inunctions of suspensol bismuth cream are used at the same time.

The chapter on Ocular Hygiene is especially well written. Routine Wassermann's in pregnant women show 8-10 per cent positives. The test should always be made early that adequate treatment is possible. Should the routine vaginal smear show gonococci, vaginal douching and 1 per cent silver nitrate applications should obviously be used during labor.

Several pages of more or less useful therapeutic formulae conclude this rather interesting volume in which the colored illustrations are excellent and the table of contents well arranged.

CHAS. A. BAHN, M. D.

Physiology and Biochemistry of Bacteria: By R. E. Buchanan, M. D., and Ellis I. Fulmer, Ph. D. Volumes II and III. Baltimore, Williams & Wilkins Co. 1930.

In a review of the first volume of this series we stated that this work is a very exhaustive, scientific study of the bacteria from a physical and chemical point of view, but that there is very little in it to interest the medical profession, except possibly some few members who are engaged in elaborate research work. The same thing is true of these later volumes.

Volume II dicusses the effects of Environment on micro-organisms, and Volume III the effects of micro-organisms on their environment. As is true in Volume 1 there is absolutely no attempt to apply the findings to matters of interest to the medical profession, and we feel that these excellent books will be of far greater benefit to the students of bacteriology who are interested in the science from the agricultural and commercial standpoints. It is really for these latter groups that the work is intended.

ADELAIDE MARY ZOELLER, M. D.

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